NEW YORK STATE MECHANIC.

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KNOWLEDGE FOR THE PEOPLE.

PLATINUM.

Why is platinum so called?

Because it resembles silver; the term, in the language of Peru, meaning "little silver."

Platinum may always be known from other metals by its superior specific gravity, it being the heaviest body in nature. The important uses to which this precious metal may be applied, can be easily conceived, when it is considered that it unites the indestructibility of gold to a degree of hardness almost equal to that of iron; that it resists the action of the most violent fire, and also of the most concentrated acids. One of its more useful applications has been to the coating of copper with as much ease as the common operation of tinning. The high value of platinum is however very much against its general adoption, for although much cheaper than gold, it is worth between four and five times its weight of silver.

Why is the alloy of steel and platinum well adopted for mirrors?

Because it takes a fine polish and does not tarnish.

Why is platinum well adapted for the manufacture of rings and chains?

Because it has the property of being united by welding, either one piece to another, or with iron, or steel. Hence its durability must add to its value.

A beautiful coinage of platinum has lately been issued in Russia, the metal being found in considerable quantities in the Uralian mountains of Siberia.

Why is rhodium used for the nibs of metallic pens?

Because of its extreme hardness and durability. For this successful application, the elegant arts are indebted to the suggestion of the late Dr. Wollaston.

GLASS.

Why is lead important in glass?

Because its oxide, in the form of litharge, or minium, increases the fusibility of the compound, gives it greater tenaciousness when hot, increases its refractive power, and enables it to bear sudden changes of temperature, It is a copious ingredient in the *London flint glass*, celebrated for its brilliancy when cut, and used for most optical purposes. Lead, however, renders glass so soft as easily to scratch.

Why are plate-glass windows superior to those of common glass?

Because the two surfaces of common window-glass are not perfect planes, and not perfectly parallel to each other, as in the case of plate-glass; whence objects seen through the former, appear generally more or less out of shape; and hence comes the elegance and beauty of plate-glass windows; and the singular distortion of things viewed through that swelling or lump of glass which remains where the glass-blower's instrument was attached, and which appears at the centre of certain very coarse panes.

The variation is also thus philosophically explained: "As it is the obliquity between the passing ray and the surface, which, in any case of refraction, determines the degree of bending, a body seen through a medium of irregular surface, appears distorted, according to the nature of that surface."—*Arnott.*

Why is plate-glass so expensive?

Because of the difficulty of producing a perfect plate, without specks, bubbles, or waves, and the risk of breakage.

Why was the black oxide of manganese formerly called glass soap?

Because it cleanses certain impurities, and especially the green tinge which is apt to arise from impure alkali.

Why do glass-cutters use the point of a diamond for dividing and shaping their panes?

Because diamond is the hardest of known substances, and cuts or scratches every other body.—*Arnott.*

Glass can, however, can be cut by the *natural* point of the diamond. There are various other methods of cutting glass, among which the following, from a French Journal, merits notice.

If a tube, or goblet, or other round glass body is to be cut, a line is to be marked with a gun-flint, having a sharp angle, an agate, a diamond, or a file, exactly on the place where it is to be cut. A long thread, covered with sulphur, is then to be passed two or three times about the circular line, and is to be inflamed and burnt; when the glass is well heated, some drops of cold water are to be thrown on to it, when the pieces will separate in an exact manner as if cut with scissors. It is by this means that glasses are cut circular into thin bands, which may either be separated from, or repose upon, each other at pleasure, in the manner of a spring.

Why is the white enamel in imitative gold trinkets of such little value?

Because it is merely glass rendered more or less milky or opaque, by the addition of oxide tin; it forms the basis of many of the coloured enamels, which are tinged with the metallic oxides.

Why are leaden bullets let fall on glass cooled in the open air, without breaking it, whereas a few grains of sand also let fall on the glass would break it into a thousand pieces?

Because the lead does not scratch the surface of the glass; while the sand, being sharp and angular, scratches it sufficiently to break it.

Why are glass house cinders, or clinkers, employed in hydraulic mortar?

Because they contribute to its rapid consolidation. This advantage was employed in the construction of the bridge of Louis XVI. at Paris, and in building the jetties and fort at Cherbourg.

POTTERY.

Why is common clay of a brownish color?

Because of the oxide of iron which it contains.

Why is nickel prized by the French manufacturers of porcelain?

Because its oxide affords them a very delicate grass-green, and like other metallic colors this bears the intense heat of their ovens without injury. A hyacinthine color may be given to flint-glass by melting it with this oxide.—*Parkes.*

Why is manganese serviceable in the arts?

Because its oxides are used in preparing bleaching liquor; in purifying glass, (for which purpose, according to Pliny, it was employed two thousand years ago,) in glazing black earthenware; and coloring porcelain enamels.

Why are the patterns upon ordinary porcelain chiefly in blue?

Because of the facility of applying cobalt. These patterns are genenally printed off upon paper, which is applied to the plate or other article while in the state of biscuit, and adheres to the surface when heat is proprely applied.

Why are gum-water and borax used in gilding porcelain?

Because, upon the application of heat, the gum burns off, and the borax vitrifying upon the surface causes the gold firmly to adhere; it is afterwards burnished.

Why ought the materials for porcelain to be selected with the greatest caution?

Because it is necessary that the compound should remain perfectly white after exposure to heat; that it should endure a very high temperature without fusing, and at the same time acquire a semi-vitreous texture and a peculiar degree of translucency and toughness. These qualities are united in some of the oriental porcelain, or *China*, and in some of the old Dresden, but they are rarely found co-existent in that of modern European manufacture. Sevres and Worcester porcelain is extremely white and translucent, but it is more apt to crack by sudden changes of temperature, more brittle, and, consequently, requires to be formed into thicker and heavier vessels; and more fusible than the finest porcelains of Japan and China. Painting on porcelain or in enamel is an art of great difficulty, and with every care there are frequent failures, hence the costliness of fine porcelain.

Why is Wedgwood ware so called?

Because it was the invention, or rather improvement of Mr. Wedgwood, who, for that purpose brought modelers from Italy and other parts of the continent, and employed a competent chemist to superintend his experiments. By this means, he not only excluded the foreign manufacture from the market, but also supplied a large quantity for exportation, extending the business far beyond all former example.

SCOURING, OR RENOVATING ARTICLES OF DRESS.

This art has been much more studied by Frenchmen, who wear the same coat for two or three years, than by Englishmen, who generally cast them off after so many months. The workmen who remove greasy strains from dress, are called, in France, *teinturiers-degraisseurs*, because they are often obliged to combine dyeing with scourmg operations. The art of cleansing clothes being founded upon the knowledge of solvents, the practitioner of it should, as we shall presently illustrate by examples, be acquainted with the laws of chemical affinity.

Among the spots which alter the colors fixed upon stuffs, some are caused by a substance which may be described as *simple*, in common language; and others by a substance which results from the combination of two or more bodies, that may act separately or together upon the stuff, and which may therefore be called *compound*.

Simple stains.—Oils and fats are the substances which form the greater part of simple stains. They give a deep shade to the ground of the cloth; they continue to spread for several days; they attract the dust, and retain it so strongly, that it is not moveable by the brush; and they eventually render the stain lighter colored upon a dark ground, and of a disagreeable gray tint upon a pale or light ground.

The general principle of cleansing all spots, consists in applying to them a substance which shall have a stronger affinity for the matter composing them, than this has for the cloth, and which shall render them soluble in some liquid menstruum, such as water, spirits, naptha, oil of turpentine, &c.

Alkalis would seem to be proper in this point of view, as they are the most powerful solvents of grease; but they act too strongly upon silk and wool, as well as change too powerfully the colors of dyed stuffs, to be safely applicable in removing stains. The best substances for this purpose are, 1. Soap. 2 Chalk, fuller's earth, soap-stone or statite (called in this country French chalk). These should be merely diffused through a little

water into a thin paste, spread upon the stain, and allowed to dry. The spot requires now to be merely brushed. 3. Ox-gall and yolk of egg have the property of dissolving fatty bodies without affecting perceptibly the texture of colors of cloth, and may therefore be employed with advantage. The ox-gall should be purified, to prevent its greenish tint from degrading the brilliancy of dyed stuffs, or the purity of whites. Thus prepared, it is the most precious of all substances known for removing these kinds of stains. 4. The volatile oil of turpentine will take out only recent stains; for which pu pose it ought to be previously purified by distillation over quicklime. Wax, rosin, turpentine, pitch, and all resinous bodies in general, form stains of greater or less adhesion, which may be dissolved out by pure alcohol. The juices of fruits, and the colored juices of all vegetables in general, deposite upon clothes marks in their peculiar hues. Stains of wine, mulberries, black currants, morellos, liquors, and weld, yield only to soaping with the hand, followed by fumigation with sulphurous acid; but the latter process is inadmissible with certain colored stuffs. Iron mould or rust stains may be taken out almost instantaneously with a strong solution of oxide acid. If the stain is recent, cream of tartar will remove it.

compound spots.—That mixture of rust of iron and grease called *cambouis* by the French, is an example of this kind, and requires two distinct operations; first, the removal of the grease, and then of the rust, by the means above indicated.

Mud, especially that of cities, is a compound of vegetable remains, and of ferruginous ma ter in a state of black oxyde. Washing with pure water, followed if necessary with soaping, will take away the vegetable juices; and then the iron may be removed with cream of tartar, which must, however, be well washed out. Ink stains, when recent, may be taken out by washing, first with pure water, next with soapy water, and lastly with lemon juice; but if old, they must be treated with oxalic acid. Stains occasioned by smoke, or by sauces browned in a frying-pan, may be supposed to consist of a mixture of pitch, black oxyde of iron, empyreumatic oil, and some saline matters dissolved in pyroligneous acid. In this case several reagents must be employed to remove the stains. Water and soap dissolve perfectly well the vegetable matters, the salts, the pyroligenous acid, and even the empyreumatic oils in a great measure; the essence of turpentine will remove the rest of the oils and all the pitchy matter; then oxalic acid may be used to discharge the iron. Coffee stains require a washing with warter, with a careful soaping, at the temperature of 120° F., followed by sulphuration. The two latter processes may be repeated twice or thrice. Chocolate stains may be removed by the same means, and more easily.

As to those stains which change the color of the stuff, they may be corrected by appropriate chemical reagents or dyes. When black or brown cloth is reddened by an acid, the stain is best counteracted by the application of water of ammonia. If delicate silk colors are injured by soapy or alkaline matters, the stains must be treated with colorless vinegar of moderate force. An earthy compound for removing grease spots is made as follows:—Take fuller's earth, free from all gritty matter be elutriation with water; mix with half a pound of earth so prepared, half a pound of soda, as much soap, and eight yolks, of eggs well beat up with half a pound of purified ox-gall. The whole must be carefully triturated upon a prophyry slab; the soda with the soap in the same manner as colors are ground, mixing in gradually the eggs and the ox-gall previously beat together. Incorporate next the soft earth by slow degrees, till a uniform thick paste be formed, which should be made into balls or cakes of a convenient size, and laid out to dry. A little of this detergent being scraped off with a knife, made into a paste with water, and applied to the stain, will remove it. Purified ox-gall is to be digused through its own bulk of water, applied to the spots, rubbed well into them with the hands till they disappear, after which the stuff is to be washed with soft water. It is the best substance for removing stains on woollen clothes.

The redistilled oil of turpentine may also be rubbed upon the dry clothes with a sponge or a tuft of cotton till the spot disappear; but it must be immediately afterwards covered with some plastic clay reduced to powder. Without this precaution, a cloud would be formed round the stain, as large as the part moistened with the turpentine.

Oxalic acid may be applied in powder upon the spot previously moistened with water, well rubbed on, and then washed off with pure water.

Sulphurous acid is best generated at the moment of using it. If the clothes be much stained, they should be suspended in an ordinary fumigating chamber. For trifling stains, the sulphur may be burned under the wide end of a small card or paper funnel, whose upper orifice is applied near the cloth.

Manipultations of the scourer.—These consist, first, in washing the clothes in clear soft water, or in soap-water. The cloth must be next stretched on a sloping board, and rubbed with the appropriate reagent as the above described, either by a sponge or a small hard brush. The application of a redhot iron a little way above a moistened spot often volatillizes the greasy matter out of it. Stains of pitch, varnish, or oil paint, which have become dry, must first be softened with a little fresh butter or lard, and then treated with the powder of the scouring ball. When the gloss has been taken from silk, it may be restored by applying the filtered mucilage of gum tragacanth; stretching it upon a frame to dry. Ribands are glossed with isinglass. Lemon juice is used to brighten scarlet spots, after the have been cleaned.

Ure's Dictionary.

A GLANCE AT THE ARTS IN THE FAIR OF THE AMERICAN INSTITUTE.

(Continued.)

Patent bureau bedstead, 196 Broadway, is certainly a very valuable article, where room is an object, for a small and handsome bureau gives you when unfolded a full sized bedstead, bed and all, and even a good sized drawer. It is a very ingenious and useful contrivance.——Two elegant wardrobes of mahogany also contained, beside room for wardrobe purposes, a full sized bed and all its appurtenances. No one would imagine that any one of these contained a bed, &c. &c.——The specimen of blank book ruling and binding, by Root & Whipple, 57 Wall st., exceed any thing we have seen. We had not imagined that ruling of so fine a character was called for, or that it could be produced if required.——An ivory vase of the most difficult and exquisite workmanship attracted great attention, and especially the cameo's which were inserted in various parts of it. Around the body of the vase was a series of cameo heads of the presidents and other distinguished men, and, higher up, pictorial representations of the battle of Princeton, the Constitution and Gueriere, the Genius of Liberty, Washington, &c., all wrought with exquisite skill, out of the mineral. Price $300. It was made by a French gentleman in New York.——Mott's cast iron vase, for gardens, is worthy the attention of horticulturists, and more especially the vase wrought by the talented *Thorn*, out of the Jersey sand stone, of which Trinity church is building.——The guitars of American workmanship are most splendid specimens of art. But a few years since and we dreamed not of making these, nor one fourth part of the useful and elegant articles now found in this fair. The American harps are also splendid, and even surpass those of European manufacture. The flutes, rose wood and ivory, in a case, are emphatically unequaled by imported instruments, either in tone or workmanship, and so much for encouraging our own mechanics.——The horticultural scythe, for ornamental gardening, suggested by judge Walsh, of Troy, is very valuable. By the by, the horticultural department is especially indebted to this gentleman and Mr. Bridgman for its excellence; yet, as suggested by them, it should receive a still greater share of attention from the Institute than heretofore.

This annual exhibition of the arts has just closed, and the results prove it to have been the greatest fair ever held in the country. There were exhibited over 17,000 specimens of rare, curious and useful products of nature, ingenuity and skill, and the number of visitants was over 100,000. The weather was fine, as well for the equatic sports, the blowing up of the ship by Colt's battery, and the cattle show, as for the exhibition at the great saloon. It would be needless for us to comment upon the advantages which mechanics derive from such exhibitions of their arts—all must fully appreciate their value, both as a means of stimulating their mechanical skill and as a source of profit. Many mechanics and artisans we know have dated the beginning of their prosperity from these fairs, and hundreds have been made independent by them. Their skill in manufactures has here been brought into notice, and the immeasurable orders for articles of their workmanship, which have commenced in the fair, have permanently established their business. If such an institution, then, as the American Institute, is not emphatically an all important means of encouraging American mechanics, their skill and industry, we know not what is deserving of such claims. Long may our mechanics be favored with such opportunies of exhibiting the products of their ingenuity. A thousand hints are here offered them, beside the advantages we have mentioned, by which to improve upon the machines and the various arts of domestic life.

We had intended a description, or rather, a passing notice of the principal articles of importance and utility, in the recent fair, but we find the task quite too great, however brief that notice. There were a few more articles on our list when the fair closed, which we shall mention, whilst we regret our inability to notice many, very many, of great merit and ingenuity.

The specimens of letter paper from John Campbell's store, Nassau st., were equal to any thing imported. When it is known that without the encouragement afforded by the tariff our manufacturers would not have been able to make a single sheet of paper so cheap as the rag and cheap labor countries of Europe, we are glad that now we can make it for ourselves, and save the vast amount of money which would have been sent out of the country for it, beside the call and reward which it gives for the industry of our countrymen. The samples of tissue and other kinds of paper, from the Bloomingdale factory, N. J., were equally creditable to the skill and industry of our mechanics.——The specimens of imitation of mahogany, by Johnson, 20 Chatham st., surpassed any painting we have seen in that line. We could scarcely believe it imitation, though assured of it by others.——The various samples of traveling trunks, valises, &c., exceeded in strength, beauty and convenience, any we have seen. Some were from 84 Wall st.——Gier's rotary card press is a simple and beautiful article.——Espy's patent cone, for the "cure of smoky chimneys," is a very simple contrivance, but, though well spoken of, we have seen no evidence of its virtues.——Hamilton's several patent machines for sawing down trees and for sawing them off for any purposes, and of any size, is one of the most useful inventions of the day. For clearing land or for preparing ship and other timber, they are indispensable, and, of course, must be in general use where much of this work is required to be done, on account of their great despatch, ease, safety and convenience.——Guion's patent runners for wheel carriages would strike any one at the first sight as an important invention. Though simple, as always with the best improvements, they are just the thing for all carmen in our northern cities, and for all those setting out on

journies during the winter season.——The specimens of American flannels and broad cloths were very numerous, and from that circumstance forbid particularity. No foreign cloths that we have seen would compete with them, either in price or in quality, and yet there are those who harp much about the policy and economy of buying all our cloths of foreign manufacturers, the product of foreign industry and labor, while our own mechanics and their families might starve for want of the employment which the manufacturer might afford them—because, peradventure, a coat might be bought for some two or three dollars less of foreign fabric than of our own. Such would seem to forget that the mechanic can better pay this small difference, if in truth it should be required, when he is steadily employed, at fair wages, than when he is earning nothing at all. A coat would be dear at even one half the price, if he had no money to buy, and a family imploring him at the same time for bread; nay, he could not buy at *any price*. We need not mention, in addition to this, the *impolicy* of sending away all our money—our specie, of course—to support foreign laborers, and render prosperous foreign governments, which would destroy ours if they could, thereby, beside impoverishing the mechanic, rendering the whole industry and capital of our country constantly more wretched and unproductive. However, something of this has been seen a year or two past, by the gradual withdrawal of all encouragement and protection, in the extinguishment of the compromise law. No, no, politicians, lawyers, selfish and truckling partisans, might get their coats and their gew gaws of foreign workmanship cheaper, but the honest mechanic and laborer would not get even his bread, perhaps.

Conclusion next week.

INVENTIONS, DISCOVERIES, ETC.

COPPER MINE IN RHOIDE ISLAND.

A rich Copper Mine has been opened at Cumberland, R. I. Within the last week 15 tons of ore have been shipped from Boston, from the mine, commenced, this season, and worked by four men only. The ore was sent to Liverpool to be sold at the monthly mart of ore at Swansea. There is not a single smelting furnace for copper in North America. The ore Chili, the grey oxide, which is the richest in the world, yielding 80 per cent, is sent exclusively to Swansea. The Boston American says that an analysis of the ore from Cumberland, gave for the richest specimens, 57 per cent, for the poorest, 5 per cent. The average about 13 per cent. The best Cornwall mines gives an average of only 10 per cent. The Stratford mines in Vermont, which were worked some years with profit, untill the vein ran out, gave an average of 5 per cent.

COPPER MINES.

The citizens of Springfield, Mo. were somewhat elated the other day, because of the discovery of a silver mine in the western part of Dade County, extending some ten or fifteen miles in length. It turned out, however, to be a copper mine, which is said to be extensive.

AMERICAN FLOUR.

The Liverpool correspondent of the New York Union says:

"During the recent discussion in the London papers respecting the relative prices of flour and bread, (the complaint being, the miller and the baker keep up the price of flour and bread, wheat being now much lower in price than for many years past,) a curious fact has transpired. It appears that Lemann, biscuit maker, Threadneedle street—who made an immense fortune by his business—found, by experience, that either in biscuit or bread, American flour will absorb from a 13th to a 7th more of its weight in water, than any other flour. Mrs Rundell, in her Domestic Cookery, (which made more money for John Murray, of Albermarle street, than Byron's most successful works) states also, that a stone (14 lbs) of American flour will make 21¼ lbs, of bread while the best kind of English flour will, from a like quantity, produce only 18¼ lbs, of bread. This is a curious fact, and as it is now taking the rounds of the public journals, must operate favorably for American flour.

LADIES SHOES—QUICK WORK.

Among the articles exhibiting of the Fair at the American Institute says the *New York Tribune* is a piece of morocco and a pair of ladies' shoes, who brief history speaks volumes for the perfection to which our home manufactures have been brought by the aids of science and the native ingenuity of our mechanics. Mr. Burbank of the firm of Wm. Burbank & Co., 15 Jacob street, killed two goats on the 18th inst, at 1 o'clock. The skins of the goats passed through the various processes of beaming, liming, tanning, shaving, finishing into Morocco, and the work was completed by 10 o'clock A. M. a space of 9 hours. The usual time occupied in manufacturing the article is from 30 to 60 days—and this work was done exclusively by one man. The morocco when finished was brought from the factory of Messrs. Burbank & Co, at Gowanus to 409 Broadway, a distance of 15 miles, where a pair of shoes were made from one of the skins, and placed in the Fair before half-past 1 o'clock.

MINIATURE SCISSORS.

The following item appeared in the papers several years ago, and is noticed here as an ingenious trifle which our mechanics, seldom attempt. We have, says the editor, with the assistance of a powerful magnifying glass, examined *a very small* PAIR OF STEEL SCISSORS, *attached to a silver chain*, manufactured by Mr John Lewis, Watchmaker, No. 147 south second street Philadelphia. The scissors, weigh one *ninth* of a grain, and the chain weighs one *eighth* of a grain. It would require 51,840 pair of such scissors to weigh a pound, They are quite the *smallest* pair of scissorss of which we have ever heard, yet we found no difficulty in shutting and opening them.

NANTUCKET CAMELS.

The success of these vessels in taking ships into port over the bar in the harbor is thus announced. The Camels at Nantucket on Saturday succeeded in raising the whaling barque Peru, from a raft of fifteen feet to eight feet, when she was towed in over the bar. The Peru was from a whaling cruise in the Indian Ocean. There was great joy in Nantucket—the bells were rung, and a salute of one hundred guns fired in commemoration of the glad event.

TELEGRAPH.

Among the interesting improvements recently exhibited at the Fair of the American Institute, was a Telagraph for conveying information from the chamber of hotels to the office or bar. Its construction and operation are extremely simple. Its action is always certain and acurate. By means of this invention the occupant of any room in a hotel in which this system is used, can convey information of his wants to the person in the office in as short a time as he could ring a common bell, and can keep the bar-keeper constantly informed whether he is *in* or *out*. The inventer is Samuel Frew, Esq. of Allegheny Co. Pennsylvania.

CROTON AND SCHUYLKILL WATERS.

An analysis af these waters shows that the croton water contains about five grains of solid matter to the gallon, consisting of carbonate of lime, carbonate of magnesia, alkaline carbonate, alkaline chlorides, oxyde of iron, silicia, and organic matter. The water of the Schuylkill contains about four grains of solid matter, to the gallon, which consists of silicia, alumina and oxide of iron, carbonate of lime, carbonate of magnesia, alkaline cabonates, chlorides, sulphates, and organic matter. The Schuylkill river stpplies Philadelphia with water.

DAGUERROTYPE.

It will be recollected that in a recent sitting of the Academy, a paper was read on some remarkable circumstances connected with Daguerctype. It was stated, among other things, that a cameo having been suspended so as to hang near, but not touch, a polished plate in a box from which all light whatever was excluded, the engraving of the cameo was clearly and distinctly marked on the plate. This fact appeared, when the communication was made, to be almost magical; but it appears, from a letter which M. Breguet, the celebrated watch-maker, has addressed to the Academy, that this kind of magic has been long known to him. He states that he has frequently seen, on the polished inner surface of the gold cases of his flat watches, the name of his house plainly and legilbly marked, the impression having been received from the engraved letters of the covering of the works, which did not touch the case. M. Breguet's statement, however, does not at all diminish the importance of the communication to which it refers, nor does he attempt to explain the agency which, in the absence of light, produces this extraordinary effect. We must for the present, content ourselves with the theory laid down of the action of rays of heat upon a metal whose temperature differs sightly from that on which the engraving exists.

NEW CANNON LOCK.

Mr. E. Hidden, of this city, has invented a new percussion cannon lock, which will supercede all others now in use. We were shown one this morning, by Mr. Hill, store keeper at the arsenal. The lock is very simple in its construction, being composed of only two pieces, and there is no danger of its getting out of repair. Gen. Storms, the commissary general, has proved them, and will immediately adapt them to his brass ordnance. Capt. Chapman, of the "Veteran corps," used them when he fired the grand salute at the Croton celebration, and he says they are perfection itself. So good by to the old "port-fire," and "lint-stock."—*N. Y. Union.*

FLYING MACHINE.

The N. O. Picayune says:—"We paid a visit to the extraordinary machine now constructing in this city, by which an intelligent and skilful mechanician is confident he can fly in the air. The experiment will be attempted in the course of twenty days. About its chance of success we cannot speak, but we do think, if the stupendous enterprise is ever achieved, it will be upon the principles this gentleman now originates. At any rate, his ingenious machine will be a curiosity of itself, even if it never mounts into ether.

THE ARTESIAN WELL AT PARIS.

The operation of tubing the well at Grenelle has recently been completed in the most satisfactory manner. In order to understand the importance of this work it may be well to refer to the cause which have rendered it necessary. In the month of February, 1841, after eight years' perserving labour the spring at Grenelle began to pour forth a volume of water of not less than 2,600 litres a minute. But, although the source was as pure as that of the Seine, it has as dark a colour as the waters in the gutters of the streets. A pipe of joints, 1,800 feet in length, copper turned, made as a telescope, was placed in the excavation; but not being strong enough to resist the force of the ascending waters, it was soon flattened and destroyed. M Mulot, thereupon, had a new tube of beaten iron, each joint of which was thick enough to resist a pressure equal to 70 atmospheres. On the 20th of this month, after only four days' labour, the tube was properly fixed, and the water now flows abundantly, clear as rock crystal, and at milk-warm heat. The old workshop from the middle of which the current flowed, is already half destroyed, and on its site the carpenters are erecting a scaffolding of strong pine boards, 100 feet high, which will direct and form a channel for the waters rising to this height. Paris will now possess an inexhaustable supply of excellent water, rushing from such an elevation as to be easily distributed to the loftiest situations in the city.

[From another source we learn that the temperature of the water is about 82 degrees of Fahrenheit.]

BED QUILT.

Miss Jane Craighed, a young lady of this borough, has recently completed a quilt, which for beauty and ingenuity exceeds any thing of the kind we ever saw. It is composed of 6,521 pieces all of the same size and shape, but each one of different pattern. Any one can judge of the work there is on it, as well as of the patience of the lady who made it, from the fact that it was commenced sixteen years ago, and has occupied the most of her leisure moments ever since —*Harrisbubg Chron.*

STOCKTON GUN.

The stokton gun, according to the Philadelphia papers, will prove a most formidable instrument of national warfare. Experiments were made with it last week, which prove that it combines 'the power of Fulton's torpedo and the certainty of execution of the Kentucky rifle.' We have often heard it said remarks the Philadelphia Evening Journal, that Capt. Stockton would make the vessel he is now building at the navy yard invincible, and are now fully satisfied he will do so.

Original.

THE LEAL LAND.

BY DR. JOHN C. M'CABE.

The leal land! the leal land! how beautiful it seems
When seen by fancy's chastened glance amid our purer dreams;
When the follies of this world of ours its sorrows and its cares
Have stained the mirror of the soul with many bitter tears.

'Tis sweet to contemplate that place where sorrow comes no more!
And not a cloud of woe can rise our visions to obscure;
Where angels' everlasting songs break sweetly on the ear,
With those all-hallowed symphonies the spirit loves to hear.

The leal land! the leal land! I see its rich green hills,
Its blue bright waters leaping in a thousand gushing rills,
Its tall trees—oh! how lovely as they bend o'er murmuring waves,
Which roll in silvery volumes from sparkling chrystal caves.

The leal land! the leal land! Shall we know each other there,
Who have bowed in blessed fellowship in this cold world of care?
Shall those we fondly prize on earth their friendship there renew?
Our own fond friends we loved below, the faithful and the true?

How blessed is the holy thought, as o'er their graves we bend,
And drop affection's tribute-tear to the memory of each friend
Who passed away to that bright world so calmly and so sweet,
That in that blest and better land, our souls again shall meet!

The leal land! the leal land! Where blessed spirits rest:
The seal of silence on my lip, the clod upon my breast,
The green grass waving o'er my grave, the little stone to tell
What pilgrim to that better land hast bade the world farewell.

Then blessed home of wearied ones amid your peaceful bowers,
With those we loved so foundly here in this cold world of ours,
No mournful memory shall rise the soul's calm joy to dim,
Or mar the hallowed harmonies of heaven's eternal hymn!

Richmond, Va., 1842.

J. CARTER HORNBLOWER.

I have noticed in your paper occasional biographies of individuals who have contributed in their day, by their great mechanical genius, to promote the advancement of the arts, yet whose great works are forgotten or overlooked in the blaze of modern achievements. It is seldom that the name I wish here to revive is to be found in any of our modern works; although he was the contemporary of Watt, and engaged with equal ardor in the grand object of perfecting the steam engine.

This mechanician was born at Brosely in England, in 1744. His father wished him to study the law, but consulting his own inclinations, he was placed under a carpenter; a mutual unsuitability of temper led to an early separation, and Hornblower immediately sought an employment where his mechanical bias would have a wider scope.

About 1768 and 1770 he was engaged to erect a steam engine and some other machinery at Rotterdam, to which place he was a second time invited to superintend similar operations. The improvements which were made about fifty years ago in the towns of Truro and Tewksbury, and the erection of the penitentiary at Northleach, were entirely under his direction. In connection with his brother Jonathan, they acquired so great practice in the erection of steam machinery as to give great weight to their opinion, and their improvements were so ingenious as to rival the establishment of Watt & Bolton. Their engine was furnished with apparatus of their own invention of great ingenuity of construction, which rendered it self-acting. But having combined some of Watt's inventions with their own, an action was brought by Bolton against some parties who had used Hornblower's machine; and although Hornblower stated his engine to have a power equal to sixteen while Watt's with the same quantity of coal could not rate higher than ten; yet his opponents brought into the contest a resolution to succeed, which was aided by their great wealth, and the popularity which success usually inspires—the injunctions which were laid on the engines that the brothers erected, proved deeply injurious to others as well as to themselves.

Hornblower afterwards had a patent for a method of glazing calicoes by steam power, a process at that period of great importance to a very extensive branch of English manufactures; a steam engine and some of the glazing machines were erected, and pieces of calico of the usual length were glazed in two minutes. In this stage of the contrivance it was found that the preparatory process of waxing the fabric could not be done by hand, except at an expense that would overbalance the saving made by the glazing machine. Besides the increased velocity which had to be given to the piece of wax, it softened and melted it, and when it was hardened sufficiently to retain its tenacity, it lost its lubricating and glazing qualities. Hornblower had succeeded in removing this impediment, and was in the very act of erecting the necessary supplemental mechanism, when the individual, a sanguine, liberal, but obstinate man, who had purchased the patent right, and who imagined at the first that the waxing was a process of much easier accomplishment than the glazing, wearied with the expense and repeated disappointment, would proceed no further: he locked up the premises containing all the machinery, with a resolution not to open them during the term of the lease; nor could the urgent entreaties of his friends, nor the representations of the inventor, induce him to alter his determination; the business was settled by arbitration. At the termination of the lease, the steam engine was sold by auction, and the mill work broken up; but the inventor was not permitted to profit by the invention.

In 1810 a German gentleman who knew his talents and experience as an engineer, engaged him to design and erect an extensive malting and brewing establishment in Sweden. The services he rendered in this employment were so highly valued, that the remuneration which had been allowed for his superintendence was generously continued to be paid to him after his labors for his patron had ceased. He returned to England in 1813, and died in the following year.

He was one of those of whom, without looking to a higher source, it might be said, Disappointment "marked him for her own." Destitute of capital, and with the constantly increasing wants of a large family to supply, he could only exert his talents under the control of others. In this unpropitious situation he was alternately the sport of hope and disappointment; and in his efforts to emerge from that condition in which "where penury is felt the mind is chained," it may have been that his integrity was not accompanied by that flexibility of disposition which the world exacts from those it permits to be in the "way to rise." He was fortunate, however, in acquiring the confidence and regard of individuals of high character and talent, with whom he had been connected in his professional career. His exemplary tenderness, affection, and self denial, in his domestic relations, should above all be recorded to his honor.

STUART.

BUNKER HILL MONUMENT.

The aparatus for aicending the Bunker hill monument, is thus described by Joe Sykes, in a letter from Massachusetts to the New York Commercial Advertiser.

You are aware that this monument, the corner stone of which was laid by La Fayette, on the 17th of June, 1835, is now completed, and you are also aware that it is an obelisk thirty feet at the bottom, and eighteen feet square at the top, erected upon a base fifty feet in diameter. It is two hundred feet high, and consists of eighty courses of Quincy granite.

It stands on the battle ground, to which the society has obtained the title, and from which it intends to keep all encroachments. There is a winding staircase on the insside, leading from the base to the summit. The privilege of ascending is purchased for ninepence. A shrewd Yankee has contrived a mode for reaching the top for twenty cents, without the tread-mill kind of labor which must ordinarily be performed to gain such a height.

By the side of the monument he has constructed a steam engine, by which, with the aid of pullies and ropes, he can transport several persons at the same time, from the base to the top, and from the top to the ground, as fast as they may wish to go. His car is in the shape of an old fashioned well bucket, illuminated, and large enough to enable the tallest person to stand up; and it is suspended within the walls of the monument, going up and down like a bucket in the process of drawing water. The door on one side of the car opened and I stepped in alone; the door closed and I was speedily drawn to the top, on reaching which the car passed through a sort of trap door that closed under the car; the door again opened and I stepped out upon the platform, where I found several ladies and gentlemen, viewing from the four windows of the monument the magnificent prospect before them. The apparatus appears to be safe, but I must say that the emotions excited by whirling through the air two hundred and twenty feet in the twinkling of an eye, were somewhat singular, and calculated to make "my hair stand on end."

The eye from the top of the monument takes in its view the whole of Boston and its vicinity. If I should attempt to describe the scene I should fail to do it justice. If you have never been there I pray you to do so the next time you come to Boston.

NATURAL PUMPS.

Before leaving the subject of bellows and bellows pumps, we may remark that numerous illustrations of the latter may be found in the natural world. To an industrious investigator, the animal kingdom would furnish an *endless variety*, for every organized being is composed of tubes and of liquids urged through them. The contrivances by which the latter is accomplished may be considered among the prominent features in the mechanisum of animals; and although modified to infinitude, one general principal prevades the whole; this is the *distention and contraction* of flexible vessels or reservoirs in which fluids are accumulated and driven through the system. On the regular function of these organs the necessary motions of life chiefly depend; by them urine is expelled from the bladder, blood from the heart, breath from the lungs, &c.; they are natural bellows; while other devices of the Divine mechanician resembles syringes or piston pumps.

The whale spouts water with a bellows pump, and in streams compared with which the jet from one of our fire engines is child's play. His blowing apparatus consists of two large membraneous sacs; elastic and capable of being collapsed with great force. They are connected with two bony canals or tubes whose orifices are closed by a valve in the form of two semicircles, similar to those known to pump-makers as butterfly valves. When the animal spouts, he forcibly compresses the bags, already filled with water, and sends forth volumes of it to the height of 40 or 50 feet. The roaring noise that accompanies this ejection of the liquid is heard at a considerable distance, and is one of the means by which whalers, in foggy weather, are directed to their prey. The proboscis of the elephant is sometimes used as a hose pipe, through which he plays a stream in every direction by the pump in his chest. Numerous insects that live in water move their bodies by the reaction of that liquid on streams they eject from their bodies: oysters and some other shell fish move in this manner. Myriads of marine animals also ascend and descend in their native element by means of forcing pumps; when about to dive, they admit water into certain receptacles, and in such quantities as to render their bodies specifically heavier than the fluid they float in; and when they wish to ascend, they pump out the water which carried them down. —*Ewbank's Hydraulic and Mechanics.*

DWARF.

The Richmond Whig makes mention of a dwarf two feet four inches high, weighing twenty-three pounds. He is nearly seventeen years old, and is a native of Bedford county, Virginia.

ALBANY, SATURDAY, NOV. 12, 1842.

☞ The next No. completes the volume and terminates the first year of the Mechanic. We commenced without a subscriber, relying upon the intelligence and patriotism of the mechanics of the empire state to sustain the enterprize. The pecuniary difficulties under which they have labored during the past season could not then be foreseen; but although that cause has operated against us, a very fair circulation has been got up—a sufficient number for its support having come forward either with cash or promises; and though we still have a stock of the latter on hand, we do not yet despair of their soon being made available for squaring off our own debts.

☞ Arrangements are in progress for commencing with the next volume a series of articles on those sciences with which mechanics are most interested in their trades. In this series will be embraced, among others, that of Architecture, illustrated with engravings. Having given a history of the origin and progress of the application of steam power, and an account of steam boats and their inventors, we propose to trace in the same way, though more briefly, the history of rail roads, from their first rude structure a century ago up to the present time.

Mr. Richard Titus will call on the subscribers on the line of the canal between this city and Rochester, for the purpose of collecting accounts and attending to other matters connected with this paper. Our patrons in that direction will please to hold themselves in readiness to pay, so that his expenses may not exceed the amount he collects!

☞ Mechanics in cities and villages should avail themselves of terms offered to companies, whereby they may save a part or the whole of their postage. (See terms of next vol.) The subscribers at Lyons, Homer, Salina, Brockport, Niagara, Lockport, and various other places, who have received the paper some months, may also avail themselves of the same opportunity, if attended to immediately.

☞ It is very common for agents to be told by those to whom they apply for subscriptions, that they have resolved not to pay any money in advance, as they once subscribed for a work that stopped before the time was up. We will state a fact to such careful ones which may be new to them. It is this—that the amount which any subscriber has lost by publishers in advance payments compared with that which publishers have lost by trusting subscribers, is as *eighteen pence to the capital of the bank of England.* Let no man allow so absurd a prejudice to get the better of his philanthrophy, when solicited to patronize a *good and useful work*—for he may rely upon it that the work will not stop until the losses of the publisher amount to a great many subscriptions; and the satisfaction of having aided a good enterprize is more worth to a man of soul than the eighteen pence he has parted with!

☞ The next most absurd plea to that which we have just annihilated, and one which is as frequently made by mechanics for not supporting a paper of their own, is the want of ability to pay. Now to obviate this objection, we pledge ourselves to furnish every mechanic in the state of New York with this paper gratis, who will produce satisfactory evidence that he does not spend the same amount (three cents!) every week in a more useless way!! That's supplying the poor gratis. We wish those who make this plea to reflect whether they are as prudent in all matters of expense as they are in this one.

THE FARMER AND THE MECHANIC.

No two of the productive classes are more intimately connected in the products of their skill and labor than the mechanic and farmer. Both contribute essentially to the life and comforts of man. Whilst the one, by the culture of the soil, rears, gathers and preserves the means of sustaining life and invigorating nature, the other provides, by his skill and ingenuity, the implements of husbandry, of domestic utility and all the arts of social and civilized life. But for the art and the labor of the one, those of the other would be quite useless. The farmer, without the mechanic, would have no plough to prepare his soil for vegetation, no chains, yokes, or other requisites, to render obedient to his will and wants the dutiful ox, or the more fleet and useful horse; none of the numerous well adapted metallic and wooden instruments and machines for cultivating and preparing his raised crops, necessary to the wants of both man and beast; no houses within which to store and preserve the products of his labor, to shelter from storms and death his beasts of labor or those for his table; no suitable dwellings for himself, offspring and friends, to preserve life and health; no mills to render suitable for mastication and nutrition the productions of the soil and of his hard labor; no ingenious machinery to prepare the fleeces of his sheep, the hides of his cattle, or the parts of vegetable matter, for wearing apparel, or the multiplied articles of use and comfort; the boards and bricks of his houses, the shoes upon his feet, the hat upon his head, the various garments and necessary utensils of his family, both of necessity and ornament.

Again, the mechanic who thus provides the necessary means for the production and preparation of food, raiment and shelter, for the farmer and society at large, depends in turn on the farmer for the products of nature, thus raised, secured and prepared by him for the support of the mechanic, his dependants, and the consumption of all others.

Who does not see, then, the immediate and necessary dependence, the mutual interests and relations of the farmer and mechanic, and who of the varied classes of society are more essential, or contribute more directly to the wants and comforts of mankind? Should they under these circumstances, be disregarded, or their professions slightly estimated by others. Are there any arts or class of society which should take precedence, or rank above those of the mechanic and farmer? We say, unhesitatingly, no. These men are, emphatically, the bone and sinew of society, the supporters and protectors of all others, the producers of the necessaries and luxuries of life. Who will dare to depreciate or contemn their skill or labor? who overlook their worth and importance, or advocate the interests of others to their neglect and prejudice? None, we might hope and expect; yet, does not experience and observation daily demonstrate the wrongs which society practises on these most useful classes? And why? The truth is that other classes are elevated beyond their merits, in comparison, and they, consequently, are too frequently selected to legislate for, and dictate and control the interests of the farmer and mechanic, contributing little or nothing, perhaps, to the necessary wants or conveniences of society, or by their arts and practices even degrading the morals and warping the judgments of their fellow citizens—such are commonly placed in power and entrusted with the rights and dearest interests of the productive classes, of which they are, doubtless, as regardless as they are ignorant. This should not be. The most useful in society best know its wants, and can best provide for them. Their views are not those of the theoretical demagogue, the upstart blusterer, or the craven politician; no, they are those of sober, practical and honest men. Why, then, should not farmers and mechanics assert and defend their rights, their interests and standing? Shall it ever be that these great and paramount interests are to be overlooked, or treated with contumely, by those who, knowing little of them, care even less? Shall they be trodden down or made the tool of party aspirants? Let it not longer be said. That they have been thus used, the annals of the day bear overwhelming evidence. Who but the honest and hard handed farmer and mechanic are to be benefitted by protection to American industry, and who but those that would win the votes and gold of foreign mercenaries, instead of the warm hearted thanks of American artisans and farmers, oppose it? and yet, how has the matter stood? Have not the latter and their friends contended inch by inch for the encouragement and support at last wrung from a congress of politicians? It was not party that did this. Party would do any thing for party, and politicians would do all things for politics. Regard neither. As such, there is little choice in party and politicians. Principle, and principle alone is to be regarded by the farmer and mechanic, and if politicians will drag this into the political arena—the great principle of encouragement to the farmer and mechanic—let them sport as they will with it, the true interests of the country and of the productive classes are not to be sacrificed to suit the caprice, the sheer selfishness of party politics. Away with this truckling subserviency, this anti-American and suicidal policy, we have had enough of it. Let mechanics and farmers hereafter stand up fearlessly for their interests, nor longer trust them to party hacks and hirelings, come from whence they may.

But it is contended by some, perhaps believed, that the mechanic, useful as we have seen him to be to society, and essentially necessary as he is to the farmer, that he should drop his art and trade, which he has spent years in acquiring, and give place to those of foreigners. He must bow down in silent poverty, to encourage the serfs of Europe, or sacrifice his little substance and push off to untilled land, to acquire an art with which he has no acquaintance, and which is already burdened by overwhelming numbers. If he has no means of purchasing an acre of soil, which is the case in most instances, he must be content with from $5 to $9 per month, for the support of himself and family, or be forced back again to his workshop, there to contend, by night and by day, with the pauper labor of the oppressed operatives of rotten foreign governments. What consistency! what patriotism! what regard for the workingmen of America does that policy evince which would thus crush the enterprise, the industry and the ambition of the mechanic? No, no. Let us rather encourage and protect our own farmers and mechanics. Let the farmer supply the mechanic with the food which he raises, and let the mechanic furnish him with all the useful implements of his business, and the conveniences of life. Let the mutual interests of these important classes continue and go forward together. Break not in upon and crush them, to favor British agents, now fattening on the imported arts, the gew gaws and luxuries of foreign artisans, which literally glut our Atlantic states. Was there a shadow of truth or honesty in the *sound* of "*free* trade," there might then be an apology, perhaps, for the so called policy, but there is not even that. England imposes duties equal to prohibition on our farmers' products, and yet would force him to buy all of his wares, his clothing, his utensils, etc., of *her* mechanics, and

to pay for them in cash, of course, for she will not take our farmers' crops for them. This is what is called *free* trade—*free*, indeed, for *her* merchants, thus to break down *our* mechanics and force our farmers to buy the work of *her* mechanics with the last dollar of specie they may have! How very *free!*

Having noticed the vital importance to each other, and each to the whole community, of the mechanic and farmer, we trust they will duly estimate and as firmly maintain their true interests, regardless alike of party politics and political demagogues. Let them hereafter take that stand before the public which their merits and professions claim, and steadfastly adhere to principles which recognize their importance in every sphere of society.

TEN CENTS A DAY AND BEAN SOUP.

We have heard it asserted on good authority that the majority of the manufacturing establishments which have recently resumed operations, have reduced the price of labor, and in some instances also increased the number of hours. We shall be glad to be furnished with a fair statement of the reasons for such a course, if there are any, or any particulars whatever in relation thereto. The workmen, it is understood, were induced to believe that on the passage of the tariff they would be set to work at regular prices. What is the trouble now with the proprietors?

HOW TO BUILD A RAIL ROAD.

We learn from the New York Tribune that Gen. Abbott H. Brisbane, of Georgia, has constructed a rail road *seventy-six miles* in length, between the Ocmulgee and Flint rivers, with 150 laborers, who, instead of being paid wages, have taken the stock of the rail road for their labor, and are now the principal owners of the road. Mr. Brisbane furnished the means of support, such as food and clothing, for the men while they were engaged upon the work, which was about twenty months. The whole sum of money which was required for their support during that time was but $15,000; and some of them now possess $2,000 worth of stock. The road connects the Atlantic with the gulf of Mexico. The cars will be run for a time on wooden rails, which have been laid down, and with horses, at the rate of ten miles an hour, until the profits are sufficient to purchase iron rails. The company also owns 175,000 acres of land, which the laborers can enter upon and cultivate. If this operation is as fair as represented, and there is no apparent cause for doubt, it is an important result attained in the economy of industry. How incomparably better is the plan of its attainment than the borrowing of money in Europe! What an appearance of thrift, too, and token of good management, in the use of wooden rails until the business of the road shall warrant or demand the expense of iron! We must confess this looks a little Utopian—so extraordinary that we fear for its reality.

GOLD AND SILVER.

The richness of the American mines of gold and silver may be estimated from the following table. Such is the extent, too, of the mines of Mexico and South America, that they have been pronounced inexhaustible, and most undoubtedly are so. At least, the enormous quantity that has been mined since the discovery of America, has scarcely served to open the rich depositories of the god Mammon.

Gold and silver produced in 40 yrs, from 1790 to 1830.

Mexico,	Gold,	£6,436,453	Silver,	£139,818,032
Chili,	"	2,768,488	"	1,822,924
Buenos Ayres,	"	4,024,895	"	27,182,673

This, let it be remembered, is but a small portion of the whole amount. The rich mines of Columbia, Brazil and Peru, are not included.

LAW OF PATENTS.

Having in a previous number published what purported to be a synopsis of the amendments of the patent law as made at the last session of congress ,but which prooves to have been erroneous, we give below the circular of the Commissioner of Patents on that subject, to set all right again.

PATENT OFFICE, Nov. 1, 1842.

Having noticed in the public prints an entire misapprehension of the late act of Congress respecting the patent office, I hasten to say,

1. The new law does not alter the fee or duration of patents for such objects as have been hitherto patentable—the amount of which is still thirty dollars and the term fourteen years. The new law extends protection to a *new class* of cases, viz. designs embracing patterns for silk woollen and cotton fabrics, —for busts, and statue or bas relief, or composition in alto or basso relievo; such protection having been granted by foreign countries, and not till the present law by the United States.

2. The new law extends the privilege of renewal of lost patents to all those granted before the fire of December, 1836; the former law limiting it to those actually *lost* before the fire—thus excluding many lost subsequent to the fire, and before recording new, leaving the inventor remediless.

3. American ministers, consuls, &c. residing abroad, are now authorised to administer oaths to inventors. By the former law such functionaries were not permitted to perform this act—thus subjecting inventors to great inconveniance.

4. The secretary of the treasury is now authorised to repay money paid into the treasury for the patent office by mistake—thus precluding the necessity of making special application to Congress for relief.

5. The new law forbids, under a penalty, stamping the word PATENT on articles vended where no patent has been obtained, and compels patentees to stamp on the articles vended by them the date of the patent, thus affording the public information of the duration of the patent.

Editors of papers or periodicals will render a public service by giving the above an insertion, as the subject matter is interesting to a large portion of the community.

HENRY L. ELLSWORTH,
Commissoner of Patents.

THE CULTIVATOR for November contains the reports of the different anniversaries of the agricultural societies of the state, which appear to have been unusually numerous and important this year. We believe that paper has been instrumental in an eminent degree in bringing about a spirit of emulation among the farmers, and inducing them to turn their attention to the *improvement* of agriculture.

THE MECHANICS OF MAINE have published the addresses and proceedings of their late convention in pamphlet form. Cannot some one of them send us a copy?

A COLLAR MAN.—A journeyman harness maker of Wheeling, Va., made eighteen horse collars in one day, and finished them before sundown.

TO CORRESPONDENTS.—All communications whatever, intended for this paper, must be postpaid to meet attention.

VEGETABLE FUR.

In the notice, in the last Mechanic, of articles exhibited at the late fair of the American Institute, I observed the following:

"The bonnet of 'vegetable fur,' made by Miss Haven, [Hazen,] of Little Falls, is a beautiful article, but we are at a loss to conjectute the nature of the *vegetable fur* mentioned. It certainly does great credit to the fair artisan, as an article of taste and specimen of industry."

Several years ago I saw a bonnet and a cape, manufactured by the same hands, which had been highly and justly applauded at some public exhibition. The material, or *vegetable fur*, of which they were made had been collected from the bolls or pods of the *milk weed*. The articles were of pure whiteness, and very ingeniously manufactured. H.

SYNOPSIS OF NEWS, ETC.

There is a large establishment at Rutherfordton, near the gold mines in N. Carolina, under the management of Mr. Bechtler, which coins pieces about the value of eagles and half eagles, which without imitating in the least the national coinage, pass as freely in the southern states, as do the coins issued from the government mints. Their actual value is a few cents less than the amount named on their face—they bear no emblematic device, but simply the name and residence of the manufacturer, the weight and fineness, and an expression of the quality of the gold. Such coinage as this is not prohibited. Government assumes by law the exclusive privilege of coining copper, but gold and silver are left free to any person who does not imitate the government stamp.—*Trenton Gaz.*

A volcano in the moon is said to be in a state of eruption at this time. It is on the eastern side, but will not be visible until 10th Nov. within 8 minutes of 11 o'clock.

The British steam ship North America, was burnt at the wharf in Boston, last week. She will require re-building from the water line. Her engines are also much injured. The vessel was owned in St. Johns, and insured at about one fourth of her value.

The fire spread so rapidly immediately after it broke out a second time, that one of the crew who was confined to his birth by sickness, could only with great difficulty be rescued alive.

The stemboat Mermaid, in descending Mississppi sunk a keel she had in tow at the mouth of the Missouri. The keel was laden with 17,000 bushels of wheat for the New Orleans and New York markets.

The Troy and Schenectady railroad is in operation —the first car ran over it on the first day of November.

A large tobacco factory was destroyed by fire at Baltimore. Va , on the 31st October; when a brick factory and a large wooden factory were also consumed. The entire loss was about $60,000; their were 490 hogsheads of tobacco *smoked* on the occasion.

The chair factory of Mr. Rust was burned at Cincinnati, on the 21st Oct. That of Mr. Perkins was also considerably injured, with the foundry of Mr. Anthony Harkness.

The Hope mills at Scituate ,Rhode Island, were destroyed by fire on the 25th inst. It was the property of Ephraim Talbot, and contained about 400 spindles. As the works had been closed several months the fire is supposed to have been the work of an incendiary. There was an insurance of $24,000 on the property.

The paper mill of Messrs. Sharpless, Huskins and Wallace, on Redstone creek, Fayette county, Pennsylvania, was destroyed by fire on the 28th ult. The whole loss, it is estimated, will not fall short of $20,000.

The French steamer Lavosisier, of 220 horse power, was lost off Corsica, near Ajaccio, about the beginning of the month. The crew were saved.

One man in Cincinnati is putting up 17 dwellings. There are more houses now in progress of building in that city, says the Gazette, than at any former period.

Manufactures are increasing every day in the south. The last Huntsville (Alabama) Herald says:

"We understand that arrangements have been made by which several bagging and rope factories will, in a short time, be put in operation, in Jackson County, in this State. Four factories have been, for some time past, in operation in this county."

There is a great deal of counterfeit U.S. coin in circulation, of all the small denominations, and it is very difficult to detect it. As to cents, they are manufactured and sold by the keg, just like nails. The privately manufactured cents are worth just as much as those made by the government, but in silver coin, the free trade plan gets in too much copper.

We see it stated in a late French paper, that more than one half of the laborers on one of the French railroads are females, who are prefered by the contractors to men, on account of "*their docility, strength and courage.*"

At the Rockfish factory, in this vicinity, during the week ending the 8th instant, 100 looms produced 19, 187 yards of the substantial fabric for which that establishment is celebrated, being an average of 31 81-100 yards to each loom per day. Of the whole quantity, 15,550 yards were yard wide, and 3,527 yards three-quarters wide. Six weavers (females) on three wide looms each wove 3,872 yards, being an average of 35 85-100 yards to the loom each day, 107¼ yards to each weaver per day, or 645 yards to each weaver for the week.—*Fayetteville (N. C.) Observer.*

The princely entertainments of the Marquis of Breadalbane, during Queen Victoria's visit to Scotland, will, it is said, cost £60,000 per annum, besides considerable accumulations of money, and he has no family,

While the weather in New York is, and has been during the present month, is pleasant as could be desired, our Canada friends have had a touch of winter in the shape of a snow storm. On the 18th snow fell to the depth of four inches near Lake Simcoe.

The amount of work performed by the perfect machinery of the present age, when directed by skill and industry, is truly wonderful. Ten or twenty years ago a female would toil from morning till night in weaving five or six yards of cotton cloth, commonly called homespun. Now the same female, by the aid of the power loom, will weave 107¼ yards in a day.

Two young men Beard and Taylor, were recently engaged in shingling a church at Zansville, Ohio, early in a frosty morning, when Beard slipped and slid to within six inches of the eave. On climbing back, he cautioned Taylor, but scarcely had he spoken, when the ladder fell, slid down the roof and was precipitated some 70 feet to the ground. He lived but a few hours.

We regret to learn that on Friday last, as Maj. Henry Heath, an estimable citizen of Little Falls, and proprietor of the large iron foundries at that place, was stepping on board one of the canal packet boats, at Frankfort, he accidentally missed his footing and his leg slipped between the boat and lock of the canal, as they came together, and his foot and ancle were mashed to a perfect jelly. Major Heath was taken to a hotel, where the injured limb was dressed, and he was placed on board a packet for Little Falls. It is feared that amputation of leg below the knee will be necessary.

As Mr. Robert Greenfield, an engineer connected with the railroad machine shop, was removing from a schooner, one of the new locomotives, a portion of the machine fell upon his head and killed him instantly. Mr. G. was an intelligent and industrious mechanic, and a respectable citizen. He has left a large family a numerous circle of friends to mourn his loss. He was aged 35 years.—*Detroit Free Press.*

The heaviest lead establishment in Missouri, now send their lead direct to Europe. The profits are better than can be affered by the N. Y. market.

The French papers are still complaining bitterly of the American tariff. The correspondent of the *National Intelligence* quotes from the *Siecle* the following paragraph. "We must cause the southern states to be more and more discontented with this tariff; we must seek *cotton* in Brasil: by a proper convention with that country, we may amply compensate ourselves for the loss which the absurd final act of the American congress is likely to inflict upon us."

Gurdon Avery, in the village of Waterville, Oneida co., N. Y., raised this year on twelve acres of land, 29,627 lbs. of hops. He proposes to challenge the world to excel him as to quantity and quality, on the same quantity of land, for $1000—or *separately*—quality without quantity, or quantity without quality, for $500, on satisfactory evidence.

The Baltimore and Ohio railroad is completed to Cumberland, making an unbroken line of 178 miles.

The number who have lived upon the earth has been estimated at about 27,000,000,000,000,000. This sum when divided by 27,864,000, the number of square miles of land, gives 1,314,722,076 to a square foot! Suppose a square rod capable of benig divided into twele graves, each grave would contain a hundred persons, so that the whole earth has been one hundred times dug over to bury its inhabitants, supposing they had been equally distributed

A stone, weighing half a ton, fell in Harrowgate, England; a few weeks since. It was warm to the touch when first examined. It fell during a rain storm, and was seen by numbers who describe the noise it made in descending as if a thousand people were hissing at once, Dr. Magill who made an examination of the stone, says it is composed of basalt, with small particles of flint and album graecum.

THE CENTURY PLANT.

It will be recollected that in our 37th No. we gave a history of this curious plant, accompanied by a fac similie of the one at the garden of S. Van Rensselaer Esq., then just begining to branch out, and another of a perfect plant as it appears in its native climate, also, of the Aloe. The managers of the orphan asylum having removed it to New York, it is still exhibited for the benefit of that institution at Thorburn's seed store, No. 15 John street, daily, from 8 o'clock in the morning until 9 in the evening. The cut here

given represents the plant at its maturity, before it began to blossom. It was removed to its present location without injury, and the buds upon several of the upper branches being still unexpanded, are in the gradual process of unfolding their plants. The lower branches have blossomed. As it is a phenomenon which very few, perhaps, may ever have an opportunity of beholding again, it is on that account worth a visit, as well as for the patronage of a worthy charity. Our numerous readers in New York will undoubtedly avail themselves of the opportunity to see it, which they will have during a couple of weeks.

NOTICE.

The members of the Albany County Mechanics' Association will meet at Leggett's long room, Beaver st., on Tuesday evening, Nov. 16; all the members of the association are requested to be present, as business of importance will come before the association.

JAS. VAN NAMEE, *Rec. Sec'y.*

MARRIED—on the 5th inst., by the Rev. B. T. Welch, Mr. A. Given to Miss Emily Barker daughter of Charles Barker Esq

DIED—Tuesday, Nov. 4, William Kingsland, youngest son of T. W. I Groves of this city aged 21 months.

EMPLOYMENT WANTED.—A widow, with three small children, in destitute circumstances, is desirous to obtain employment. She is a dress and corset maker and can do any kind of plain sewing. Her residence is the first door north of the Green st. Baptist church. Any favors bestowed upon her will be gratefully received.

PRINTING.—Every kind of letter press printing will be done to order on short notice at the office of the Mechanic, in the best manner and at reasonable prices. Business, visiting and wedding cards executed in a superior style on an hour's notice. New and fashionable type for books and pamphlets; hand bills of every size and style; circulars, bill heads, &c. &c.

LEATHER, OIL, AND FINDING STORE,

No. 18 Hudson Street.

J. HOCHSTRASSER,

Will continue the above business at his old stand, and having made arrangements with manufacturers of Leather and Morocco in the cities of NEW-YORK, PHILADELPHIA, and ALBANY, and having in his employ first rate workmen, he is enabled to supply his customers with all the articles in his line on the most reasonable terms, at *Wholesale* or *Retail*, the following are included in his assortment: Oak and Hemlock Harness, Bridle, Collar, Horse, Trunk, Valise and Skirting Leather; Hog Skins, Philadelphia Russet Bridle, do. Facing Skins, do. Lining Hides, do. Top Hides, Patent Leather, Coach Roans, Neats Foot and Liver Oil, Currier's Tools, Oak Sole Leather, Hemlock do., Wax and Grain Upper Leather, do. Calf Skins, Kees's Philadelphia do., Seal and Kip Skins, Splits and Welt Leather, Cordovan, Red, Green, White and Yellow Linings, Goat and Sheep Binding Skins, White Alum Dressed Linings, Dressed and Undressed Morocco, Colored Goat and Sheep Skins, English Shoe Thread of all numbers, India Rubber and Patent Cloth, Apron Skins, Stock Binding, &c.

N. B. An assortment of SHOE MAKER'S FINDINGS will be kept on hand.

Also, *Roller Skins, Engine Hose, Band, Picker, String,* an *Patent Leather*, on hand and made to order. *Albany*, 1841.

BOOK BINDING.—HARVEY H. CORNING, sign of the golden ledger, 82 State street, Albany, carries on the above business in all its various branches, viz: PLAIN, EXTRA and SUPER EXTRA—has a first rate RULING MACHINE and other necessary implements for manufacturing BLANK BOOKS of every description, on the most reasonable terms, of the best materials and workmanship.

N. B. An assortment kept on hand. 27.

To Builders and Contractors.

THE subscriber having purchased Caldwell and Cameron's Lock Establishment, is now prepared to execute orders on their improved plan, in all the variety of Door Locks now used in the best style of building. The utility of these locks will at once be apparent to any one who may examine them. The principal difficulties existing in almost every lock now in use, and so much complained of by builders and house owners, is almost entirely removed. The simple but substantial application of the spring greatly lessens friction, and consequently lessens and tendency to wear. There is no liability in any of its movements, to get out of order, and any number of them may be applied with perfect ease and security to doors of various thickness, without the usual alterations, trouble and expense, that generally attend the putting on of locks, as is best known to the experienced builder. Their utility has been thoroughly tested by experienced men, for the last two years, with entire satisfaction, and are considered by all who have used them, equal and in many respects superior to any other kind of lock now in the American market.

All orders addressed to the subscriber, at the Furnace, Fonda street, will receive prompt attention,

ROB'T L. CUNNINGHAM.

Schenectady, Nov. 24, 1841.

Reference may be had to any of the undersigned gentlemen who have given their approving card for publication.

We, the undersigned builders, have used Caldwell and Cameron's patent door locks, and from their simple construction, cheapness and general utility, do not hesitate to recommend them to the public, as equal to any lock of American manufacture now in use.

BOARDMAN & VAN VOAST,
GEORGE McBAIN,
HENRY MORSE, *Builders in Albany*
JOSEPH HORSFALL,
JOHN KELLY,
CORNELIUS THOMPSON,
ELIAS LYON, *Builders in Schenectady.*

I have during the past year, put on a number of Caldwell and Cameron's patent mortice and knob locks, and consider them the easiest to put on, and the best working lock I have ever used or seen. 37 JOHN BAYSIDE, Albany.

MISCELLANY.

DEATH OF DR. CHANNING.

BY ALBERT G. GREENE.

Not for him but for us should our tears now be shed;
Mourn, mourn for the living, but not for the dead.
Let the dirge be unsung, and awaken the psalm;
No cypress for him who dies crowned with the palm;
Who has gone to his rest,
When his labor was done,
From the world he has blest,
To the heaven he has won.

Though the light of his life to our vision is o'er,
The light of his spirit will burn evermore;
For truth in the world, like the sun in the skies,
Fades only to brighten, and sets but to rise.
It moves ever onward,
Though dimm'd is its ray;
And still on the earth,
It is day—ever day.

How calmly he uttered his beautiful thought,
How meekly he bore all the honors it brought,
How bravely he spoke to oppression and wrong;
In that calmness, that meekness, that courage, how strong!
Though with tears for his parting
Our eyes may be dim,
For ourselves they are falling,
Not for him—not for him.

We bless thee, O God, that the spirit is free,
Which was true to itself, unto man, and to thee.
Thou hast called it from trial, released it from pain;
But its life and its teachings will ever remain.
The good and the true
Never die—never die;
Though gone, they are here,
Ever nigh—ever nigh.

A REMARKABLE TRIAL.

According to the Roman civil code the practice of supernatural arts was a crime. For example, it was a capital offence for any one to increase his rural productions by any art of magical incantation. Pliny relates a remarkable trial which took place under this law. Cresinus, a laborious and skilful husbandman, was charged by his envious neighbors with having crops of such abundance that it was manifest they could be produced by no other means than the power of magic. The sturdy agriculturist met the accusation by bringing into court his implements of husbandry, oxen, horses, servants, and also his daughter, who formed an able assistant, and he assured the judge that these were the only "witchcraft which he had used." This intrepidity had the desired effect; the accusers were covered with shame and confusion, while Cresinus was dismissed with honors from the tribunal. How many similar cases occur in modern times, in which the success that rewards the skilful and industrious is, ascribed to "luck," "fortune," or any other cause sooner than the real one. Let the slothful and envious remember the defence of Cresinus, the Roman husbandman.

PHILOSOPHY OF LAW.

Law is like fire, and those who meddle with it, may chance to "burn their fingers."

Law—is like a pocket with a hole in it; and those who therein risk their money, are very like to lose it.

Law—is like a lancet, dangerous in the hands of the ignorant; doubtful, even in the hands of an adept.

Law—is like a sieve; you may see through it; but will be considerbly reduced, before you can get through it.

Law—is like prussic acid; a dangerous remedy, and the smallest dose of it is generally sufficient.

Law—is like justice, even as a copper gilt is like gold, and the comparative worth of the two is about the same.

Law—is like a razor, which requires a "strong back," keenness, and an excellent temper.

Law—is like a window of stained glass, giving its own peculiar tint and hue to the bright rays of truth, which shine through it.

CHARITY.

"My dear Tom," said an exquisite to a brother idler, "how do you spend the twenty-four hours?"

"In charity!" replied the friend. "In charity!"

"Yes," continued Tom. "Firstly, I give twelve hours to sleep—and of the remaining twelve I give two to dress—four to eating and drinking—four to the play or opera—and two to smoking and building."

"Building?"

"Yes—castles in the air; and I assure you 'tis a most agreeable pastime. And now what do you think of my disposition?"

"Equitable as 'tis amiable, Tom," replied his friend; "and I must positively take a leaf out of your day-book."

SCRAPS.

"Necessity is the mother of invention," as the cook said when she used her night cap for a pudding bag.

Ladies, if you put your muff into a tight bandbox, with a piece of camphor gum, about the size of a walnut, it will prevent its being eaten by the moths.

It is said that the most beautiful specimens exhibited at the late fair of the American Institutute were the *fair* themselves.

It is said that Taglioni can retire upon a competency or £8000 per annum. Poor Burns died a pauper.

It is said that Adam was 123 feet 6 inches high, Noah 100 feet, Moses 30, Hercules 10, and Alexander 6; while Wellington and Napoleon were not over 5 feet 7 inches.

She who makes her husband and her children happy, who reclaims the one from vice, and trains up the other to virtue, is a much greater character than ladies described in romiances, whose only occupation is to murder mankind with shafts from the quiver of their eyes.

Modem poets put a great deal of water in their ink.—*Gæthe.*

There are more established errors current than one would believe, and it is astonishing how steadfast men are in their adherence to nonsense.—*Von Kneble.*

I hate all people who want to found sects. It is not error, but *sectarian* error—nay even sectarian truth, which causes much of the unhappiness of mankind.—*Lessing.*

If the world is to be held together by lies, the old which are already current are just as good as the new—*Do.*

Of all thieves, fools are the worst, they rob you of time and temper.—*Gæthe.*

Be and continue poor, while others around you grow rich by dishonesty. Let others fill the offices that can only be obtained by mean servility. Wrap yourself in your own virtue, and seek a friend and your daily bread. If in such a course you have grown gray with unbleached honor, bless God and die.—*Heintzleman.*

Education is a companion which no misfortune can repress, no crime destroy, no enemy ilienate, no disposition enslave; in solitude, a solace; in society, an ornament; it chastens vice; it guides virtue; it gives at once a grace, an ornament to genins. Without it what is man? A slave!—*Mrs. Austin.*

"In spinning *yarns* and *silks* a man is sure to be *worsted*—he is also sure to get *twisted*, and is in danger of getting *doubled*; and when a man is *doubled* and *twisted* he can be easily *wound up*."

"If there is any man who may eat his bread at peace with man and God, it is that man who had brought that bread out of the earth by his own honest industry. It is cankered by no fraud, it is wet by no tears, it is stained by no blood."

A treaty has been concluded between Gov. Chambers and the Sacs and Fox Indians. The Indians are to remain in possession of the western portion of the territory for three years, and are then to move to the west of the Missouri. They are to receive £1,050,000.

A work of some importance to the scientific world has just been published at the cost of the Papal Government, viz: a description of all the obelisks of Rome, accompanied by as complete an explanation as the recent, dicoveries relative to the hieroglyphics of Egypt.

PATENT AGENCY AND MECHANICAL ENGINEERING, *Office on F street, between 7th and 8th streets, opposite the Patent Office, Washington City, D. C.*—The subscriber has resigned his situation in the patent office (where he for some time superintended the restoration of patents destroyed by fire in 1836) to devote himself to the preparation of specifications and drawings, and all matters connected with the obtaining of patents for useful inventions either in this country or Europe. His experience in theoretical and practical mechanics, together with an intimate knowledge of the progress of the useful arts and manufactures, at home and abroad, will enable him to judge of the novelty and utility of inventions submitted to his examination; and as patents are not granted, under the existing patent laws, when the alleged inventions are wanting in novelty, or contravene the established laws of science, he will be able to furnish all the information necessary to avoid the expense of making application for patents which could not be granted.

Having established a foreign correspondence, he will be able to secure patents in Great Britain, France, and other parts of the continent, or furnish information, and prepare all the necessary papers for that purpose.

A model for a machine or apparatus, or specimens for a composition of matter, are required by law, before a patent can issue; by sending a model or specimens to the subscriber, with a short statement of the object of the invention, the necessary papers and drawings will be prepared and forwarded to the applicant for execution, thereby obviating the expenses consequent upon a journey to Washington, or delay in issuing the patent.

Being well acquainted with the patent laws of the United States, England and France, and the decisions of the courts in patent cases, he tenders his services where information is required in reference to infringements of patents, or defence against suits for infringement, such as compiling and arranging evidence, &c.

To individuals and companies wishing to procure drawings and estimates of machinery, or buildings, for manufactories, on the most modern and improved plans, or any other matter connected with mechanical engineering, he will furnish information; and, should it be required, will locate and superintend structures of this description.

Wishing to be generally useful to mechanics and inventors, he will attend to the sale of machinery and patent rights; this, being a place of resort from all parts of the Union, is perhaps the best location for such a purpose.

Papers relating to patents can be sent to the commissioner of patents, when voluminous, free of postage, and models sent to the collectors of the principal ports, will also come free of expense, and the subscriber can be advised thereof by letter, which in all cases must be post paid. All applications for information relating to patents must be accompanied by a fee of five dollars; charges for other business transactions will be made according to their magnitude.

J. JAMES GREENOUGH.

Certificate of HON. H. L. ELLSWORTH, *Commissioner of Patents.*

PATENT OFFICE, NOV. 20TH, 1842.

Mr. *J. J. Greenough*, who has for some years been employed in the patent office, in a highly responsible situation, under the act of 1836, restoring the records, having to my regret tendered his resignation, I take great pleasure in recommending him as a gentleman worthy of confidence, and as being particularly qualified to take charge of any business requiring a knowledge of mechanical science, the progress of the arts, and patent improvements. Mr. Greenough is also well acquainted with the practice of this office.

HENRY L. ELLSWORTH.

REFERENCES.—Hon. S. Prentiss, of *Vt.*, U. S. Senate; Hon. J. P. Kennedy, of *Md.*, U. S. House of Rep.; Hon. John C. Clark, of *N. Y.*, U. S. House of Rep.; Hon W. Cranch, *Chief Justice, D. C.*; J. W. Hand, Esq., *Chief Clerk, Patent Office;* C. M. Keeler, Esq., *Examiner, Patent Office.*

WEAVER & RICHARDSON, Umbrellas and Parasols made, covered and repaired, in the neatest and most durable style, at No. 66 Green street, Albany, opposite the first Baptist church. N. B. Umbrellas can be furnished by the dozen at short notice. 47

AGENTS WANTED.

Mechanics out of employment may find it a paying business to solicit subscribers for this paper in their vicinities and among their friends. Applications, post paid, directed to this office will meet with attention; they should be accompanied by certificates of character and responsibility.

The following local agents are authorized to receive subscriptions and money for this paper.

Messrs. Wells & Webb, 42 Ann street, New York.

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IS PUBLISHED EVERY SATURDAY,

By JOEL MUNSELL,

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At $1.50 per annum in advance.

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Members of the state and county or town associations, subscribing through the secretary, are entitled to the paper at $1 per annum, in advance.

Subscribers who do not pay in advance, $2 per annum.

From the Boston Post.

THE NORTHERN LIGHTS.

BY A BLACKSMITH.

'Neath that low arch which boasts the blue
Of iron well annealed,
Though sought, unfound of mortal view,
A smithly lies concealed,
Hidden the hammer and the vice,
Unseen the bellows blow,
'Mid barriers of eternal ice,
And ne'er dissolving snow.

From countless forges streaming wide,
Floods of intensest light
Irradiate the walls which hide
The smithy from our sight;
But walls of glass refuse their stay,
They rise in flickering spires,
And thus to mortal eye betray
A northern Vulcan's fires.

The forge in Ætna's narrow space
Is but an air-tight stove;
No breezes fan his burning face
Who forges bolts for Jove.
So scanty oft the needful air
To feed his lava fuel,
That, far from forging thunder there,
He cannot boil his gruel.

Not so with him whose fires illume
Even now the northern sky,
Heaven's choicest blessing, elbow room;
Is his in full supply.
Where the cold clime demands their glow,
His furious fires are made,
Where hurrying gales forever blow,
As if to loud him aid.

To tell me of a welding heat
Those ruddy flashes move;
A huge forge hammer's stunning beat
Those scintillations prove.
Swart workmen of the frozen north,
What is your nightly care?
To shape conductors for the earth,
And store the lightning there?
With gudgeons at the poles,
For one of which your forges burn,
To mend it while it rolls?
If so, ply hammer, screw, or wedge,
Till doom from toil releases,
Lest earth be dashed by Encke's sledge,
To fifty thousand pieces.

KNOWLEDGE FOR THE PEOPLE.

LINEN, COTTON, ETC.

Why is linen believed to have been originally manufactured in Egypt?

Because of its frequent mention in the books of Moses, the most ancient of the scriptural writers. The original Hebrew, not, however, specifying the substance of which the cloth called in the version, linen, was formed, would be only slight evidence of the manufacture of *flaxen* cloth in Egypt at that period, were it not from thence that it was first obtained, and thence only that Europe was for a long time supplied with it. Mummies are also generally found swathed in linen; and, as the art of preserving bodies in that manner was practised in Egypt in the remotest ages, there can be no doubt that linen was made there at an era of very great antiquity.

Why did the manufacture of linen make but little progress in Europe during the middle ages?

Because it was confined, both then and for a long period afterwards, to private families, where the thread was spun, and the web was wove for domestic use; and its scarcity as an article of apparel, has been considered as one of the chief causes of the leprosy. Linen, indeed, seems to have been earlier adopted as a luxury for the table than the person, and we read of its being used at banquets long before it was known as an article of dress.

Why is the newly invented French "papier linge" so called?

Because it consists of a paper made to resemble damask and other linen so cleverly, that it is impossible, without examination, to detect the difference; and even to the touch, the articles made from the *papier linge* are very much like linen, and are used for every purpose to which linen is applicable, with the exception, of course, of those in which strength and durability are required. The price is very low: a napkin costs only five or six centimes, (about a half-penny) and when they are dirty, they are taken back at half-price.

Why is it conjectured that fine India cottons were used in ancient Rome?

Because there was a regular commercial intercourse established through the medium of Egypt between Rome and India, the chief part of which was on the coast of Malabar, (which has been ever considered as the greatest manufacturing district of the east) where the art of weaving was practised at the remotest period of which we have any account. Mr. Gifford, in a note to his translation of *Juvenal*, tell us, that the "*sericæ vestes* were what we call fine cottons, imported into Europe in Juvenal's time, as they were ages before, from India, through the country of the Seres, the modern Bochara:" and this is strongly corroborated in the *Georgics* of Virgil, which seem evidently to allude to the cotton plant:

> Of Æthiop's hoary trees and woolly wood,
> Let others tell: and how the Seres spun
> Their fleecy forests in a slender twine.

Among the Greeks and Romans, spinning was the chief employment of the women: the rites of marriage directed their attention to it; and the distaff and fleece were not only the emblems but the objects of the most important domestic duties of a wife. The machinery employed in weaving, though perhaps rude in its construction, was, in principle, similar to that still in use; and the process of fulling and preparing the cloth, seems to have resembled the modern practice in every particular point, except that of shearing the nap, with which the ancients do not appear to have been acquainted. In early records we do not, however, read of cloth being measured, which appears to have arisen from a custom of weaving no more cloth in one piece than was sufficient to form a single dress.

Muslins are to this day manufactured by the primitive loom in India, probably without alteration of the form in use during the earliest ages of its invention. It consists merely of two bamboo rollers, one for the warp, the other for the web, with a pair of geer, and the shuttle performs the office of the batton. This simple apparatus, the Indian weaver frequently erects under the shade of a tree. He digs a hole large enough to contain his legs, and the lower part of his geer; he then stretches his warp, by fastening the rollers at due distances in the turf, and suspends the balances of the geer, into which he inserts his great toes, serve instead of treddles; and with his long shuttle, he draws the weft throws the warp, and afterwards closes it up to the web. The spinning is still performed by the ancient operation of the distaff.

Why is woolen a less advantageous manufacture than cotton?

Because wool undergoes great waste in the process of being made into cloth, by scouring and shearing, which may be taken at one half, and the expense is greater, whilst cotton incurs no waste of importance.

Why is the spinning-frame superior to the jenny?

Because, though the spinning-jenny invention, in 1767, by Hargreaves, a carpenter, gave the means of spinning twenty or thirty threads at once, with no more labor than had been previously required to spin a single thread—the thread spun by the jenny could not be used except as weft, being destitute of the firmness or hardness required in the longitudinal threads or warp. Mr. Arkwright supplied this deficiency by the invention of the spinning frame, that wonderful piece of machinery, which spins a vast number of threads of any degree of fineness or hardness, leaving to man merely to feed the machine with cotton, and to join the threads when they happen to break.

Why is the spinning-mule so named?

Because it is a compound of the machinery used in the hand-jenny and water-frame.

Why is cambric so called?

Because it was first manufactured at Cambray in France.

Why may Rouen be considered the Manchester of France?

Because it is the great seat of the cotton manufactures, containing nearly 200 factories, employing about 60,000 persons. The proximity of Rouen to Havre de Grace, the great American port, gives it the same advantage, in point of situation as Manchester derives from being near Liverpool.

Why does netting differ from knitting?

Because the first is performed by knotting into meshes that cannot be unravelled; while the second is, by a certain arrangement of loops, so connected with each other as to be highly elastic without separation, yet capable of being unravelled and having the thread applied to any other use.

Why has it been conjectured that knit stockings were invented in Scotland?

Because the earliest account of this kind of knitting, is traced in a patent granted in France to a guild of knitters, who chose St. Fiacre, a Scotchman, for their patron.

Why are Angola hose preferred for their superior warmth?

Because they combine worsted and cotton in the closest intermixture of the fibre. The separate materials are first passed through a machine called a picker and blower, to clean and lighten the wool or cotton, so that half an ounce will fill a bushel measure. These are then carded together, by which the intermixture is effected, part of each material being dyed blue and black. It is then spun of various fineness by throstles and mules.

Why does the knitting of thread-lace differ from that of stockings.

Because, in making stockings, only one thread is employed, and that in one uniform way; whereas, lace is formed of as many threads as the pattern and breadth require.

Why does lace exhibit various patterns?

Because the pattern is drawn on a piece of parchment, and fastened to the cushion of a circular box with pins formed on purpose, which are stuck through it in various places, according to the design intended to be represented; the requisite number of threads are then wound upon a small bobbin, one end being tied to each pin, and these are thrown over and under each other in various ways; so that the threads twine round the pins, and thus form the multiplicity of holes or eyes which produce the desired figure.

Why is some knit-lace called point?

Because it has been worked, or embroidered, with the needle: when formed of silk, it is called *blonde*.

Why was cotton-lace formerly in such disrepute?

Because the quality of lace depends on its transparency, and at first, the meshes of cotton were encumbered with loose fibres, which destroyed its clearness; and to remove these, for some years appeared to be an insuperable difficulty.

Why is lace "gassed?"

Because the flame of the gas may penetrate the meshes, and free them of these loose fibres, which is done without the smallest injury to the fabric.

Why does ordinary weaving differ from lace-weaving?

Because it has the warp perpendicular instead of horizontal; and, instead of the shuttle moving at right angles, brass bobbins, in brass carriages of very curious and delicate structure, are made to pass in cross directions round the warp threads obliquely, so as to produce the hexagonal meshes. In truth, the principle of the machine is to produce the very same result as is effected by the evolutions of the bobbins on the pillow or cushion in hand lace-making.

Weavers, or lace-machine hands, are paid by the number of holes, or meshes, which run from 320 to 520 the square inch. The estimate is made by the rack, or 240 holes lengthways, for which they receive, according to breadth, from threepence to eightpence per rack.

A GLANCE AT THE ARTS IN THE FAIR OF THE AMERICAN INSTITUTE.

(Concluded.)

The flannels of American make were of the most admirable texture and general quality. The cloths made without spinning or weaving, some quarter of an inch in thickness, were beautiful and very fine. A cost made of this, we were satisfied, would out

wear all nature, and make a fire-and-water-proof fireman's cap long after that, and wear fine too, of course, as there is not a thread in it. It hails from 60 Pine street——We saw a new machine for shaving spokes for wheels that was very ingenious, and which appeared from the rapidity of its execution to do the work of a dozen men in that line, but we found no one to give us further particulars.——The patent windlas fountain lamp, invented by W. Hunt of New York, although alluded to before, is so deserving of special notice, that we cannot refrain from doing it further justice. It is designed to burn camphine composition oil, *without a wick or a substitute for one.* It is arranged as a portable pendulous or fixed lamp for stores, parlors, halls, theatres, churches, &c., and more particularly to take the place of gas wherever that is used. It may be supplied from a distant can or cask in an out of the way place, without the least danger whatever, and at *one-third* the price of oil, and at *one-half the expense of gas.* The avoidance of all trouble on account of wick, and the great richness and splendor of the light, cannot fail to ensure the speedy introduction of this lamp for all the above purposes. Another important advantage, is its peculiar adaptation to light houses; and we understand that Mr. Hunt is already introducing it by request for that purpose. In fine, the merits of the lamp will soon be fully and generally known.

Gen. Tallmadge, president of the Institute, mentioned, on the announcement of the premiums, at the close of the fair, that no less than fourteen states, and one territory, presented competitors for the honors of the Institute on the occasion. There were 1700 competitors for premiums, and 17,000 articles submitted to the inspection of the judges, of which there had been 300 appointed. The president referred to the accomplishment of all the exhibitions which had been promised by the Institute—the plowing match at East New York, the boat races, the blowing up of the ship by Colt's battery, the cattle show, speeches, music, &c. &c. In the department of agriculture, there were in 1829 but a few apples, and now the spacious room crowded with products, would sufficiently test the advancement. In horticulture, the exhibition was worthy of all praise, but next year Mr. Bridgeman with some ladies had promised a great deal more. Several states had contributed in products of gardening, and Boston it was said, had gone ahead of the Institute in many of the articles exhibited. Though 25 cents is charged for admittance, yet no funds were expended except for the fair and expenses in the award of the premiums, and not above one eighth of those who visited the fair were pay visitors. All members with their families and all the contributors and their friends are admitted free of expense. All members of the legislature, of the common council and of more than forty agricultural and other societies are invited guests, besides 11,000 scholars of our public schools.

The annual expense of hiring the rooms for the fair, inconvenient as they were amounts to more than all the premiums awarded. This called loudly for suitable rooms to be built for the institute and the aid of the public in so doing. The president here alluded to several signal specimens of workship exhibited both by ladies and mechanics. A steam vessel said he is much spoken of by the prints as building in Europe to proceed to this port in the spring, which is 300 feet in length, while we have building in our own port a steamer for our Hudson 330 feet in length; evincing an acknowledged superiority in this branch of science and skill. Several states had manifested a lively interest in the good cause of the Institute and many persons were constantly becoming members at only $2 per annum.

The fair was visited by all the boys of the navy school with their officers. The jolly young tars, in a line of great length, marched up from the N. Carolina with music and looked well, not to say promising for the reputation of our navy. The military musical school of Governor's Island headed by the band of the fort, looked and marched admirably when visiting the fair. They are some 50 youths from 10 to 16 years of age studying and producing music for the army under the government. Delegates from the mechanical associations in Boston, Philadelphia and other places were in attendance during the fair and were uniformely gratified with the reception given them by the directors. There were on each day of the fair addresses from distinguished visitors, mostly from other states, all of which were replete with valuable information and delivered in a style of great elegance and effect. The fine works exhibited during several evenings of the fair were of the most brilliant and striking character. Every exhibition connected with this great annual and national fair of the American Institute was distinguished for its effect and importance. Time would entirely fail as to do any thing like justice to it; and we have therefore briefly mentioned a few only of the articles exhibited and of the occurences during the fair. It is only necessary to add that on no occasion has there been so great and so useful an exhibition of mind and of mechanical skill, in this country, nor is it probable there will be any thing to compare with it until the next annual fair of the American Institute.

STILLING.

Henry Young Stilling was the son of a poor man, half-tailor, half-shoemaker, in a small village in Westphalia; and this poor, weak, unfriended, pious boy, led by strange jumps and curious cross-ways of Providence, rose from one dignity to another, till at last he became aulic counsellor to the grand duke of Baden, operator of cataract to all the blind in Germany, and a prominent religious writer among the Moravians. His life was long—from 1740 to 1817—but he lost not one line of that primitive simplicity of character, the great virtue of that pious race from which he sprung. During the first 20 years of his life, be saw and heard little but the unassuming and pervading piety of a Moravian commumunity. How he was startled by the first profane expression he heard!

He was about eight years old. He sat on a chair, reading a book and looking very serious, as was his fashion. Stabler looked him in the face, and said, "Henry, what are you doing there so seiously?" "I am reading." "Have you learned, to read so young?" The child expressed surprise and read aloud, with great fluency, giving at the same time the proper emphasis and expression to every word. Stabler was astonished. "May the devil take me," said he, "if I ever saw the like of that." When Henry heard this oath, he sprung suddenly up, trembled, and looked fearfully round. When however, he saw the devil did not make his appearance, he said, "*Oh God! how gracious thou art!*" Turning round to Stabler he said, "Man, hast thou seen Satan?" "No," replied he. "Then never call on him again," said Henry, and went into another room.

Happy that parent who has so educated his children that the first oath they hear thus shocks them, and makes them forsake the swearer's presence—and happy he who by assiduous teaching and example, succeeds in making his children fear an oath to the last of his days!

BOAT TO RESCUE NAPOLEON.

It is not, perhaps, generally known, that a few years since, a vessel was engaged to be built at Battersea, England, by the renowned Johnson, the smuggler, for the purpose of liberating Bonaparte from the Island of St. Helena. The vessel was about ninety feet long, and the burden of one hundred tons. It was built of half inch plank; the grain of two such planks was placed in a vertical and the other two in a horizontal position. These planks were so well caulked and cemented together, that the thickness of the sides of the vessel did not exceed that of an ordinary washing tub. The masts were so contrived, that they could be lowered to a level with the deck, and the whole vessel might be sunk in shoal water, with the crew on board, without any danger. Ample means were provided for supplying the vessel with fresh air. The plan was, to sail up at night, within a short distance of St. Helena, and sink the vessel until the next or some subsequent night, when the Emperor would be enabled to make his escape to the beach, at which time the vessel was to be raised, Bonaparte to get on board, and sail away in the dark. It happened, however that Bonaparte died before the vessel was quite finished; and it is a curious coincidencé that she was to be coppered the very day the news of his death arrived. Johnson was to have received £40,000 as soon as the vessel had got into the blue water, exclusive of the reward to be given in case the enterprise succeeded.

This Johnson had previously offered his services to the admiralty, and affirmed that he could blow up any ship without being hurt. Accordingly, a trial was given him in the Thames, accompanied by a boatswain to one of her Majesty's ships, who had been married only a week before, in a boat of similar construction to the one before described, to a barge moored in the middle of the stream. They sunk their boat, made fast their torpedo to the bottom of the barge, and lighted the match. Johnson then perceived that his vessel remained fast, having got, (as sailors express it) his cable athwart hause of the barge; upon which, he pulled out his watch, and having looked at it alternately, told the boatswain he had only two minutes and a half to live. Upon this, the boatswain began to make grievous lamentations—"Oh! my poor dear Nancy!" said the boatswain "what will she say?" Avast blubbering," said Johnson, "doff your jacket, and be ready to stuff it in the hawsehole, while I cut the cable." Upon saying this, Johnson seized an axe, and cut the cable. The boatswain stuffed his jacket into the hole, and they got out of the reach of the torpedo, which blew up the barge.

MACHINERY IN THE HUMAN FRAME.

Very few, even mechanics, are aware, how much machinery there is in their own bodies. Not only are there hinges and joints in the bones, but there are valves in the veins, a forcing pump in the heart and other curiosities. One of the muscles of the eye forms a real pulley. The bones which support the body are made precisely in that form, which has been calculated by mathematicians, to be strong for pillars and supporting columns; that of hollow cylinders. This form combines the greatest lightness with the greatest strength. Of this form are the quills of birds' wings where these requisites are necessary.

THE FACTORY SYSTEM.

The Olive Branch, a religious paper of the Methodist persuasion, remarks,

"That great men, and in many respects good men, pay little attention to the happiness of their poor work folks. The Messrs. Lawrence, some time since, according to the Lowell newspapers, when overstocked with goods, ordered the speed of their mills slackened one third, instead of giving their help one third of the time for rest and the improvement of their minds, their poor people were kept in the mills twelve or fourteen hours, to do what they could as easily have done in eight or nine.—We mention this case because these gentlemen are among our first citizens, and one of them has been a member of Congress, and has talked great words about a protective tariff and all that for the benefit of American laborers, while his own workmen could not be allowed a few hours a day for rest and to cultivate their minds, which he could give them without the cost of a cent O no! the workmen must be brought to feel that they are a part of the machinery of a factory!"

ALBANY, SATURDAY, NOV. 19, 1842.

☞ We this week redeem the pledge made one year ago, when this paper was commenced without a subscriber, that it should be printed one year at all hazards. The same assurance is made for the year to come, trusting that the mechanics will sustain us in the risk.

☞ With this paper a large number of subscriptions terminate. As there are undoubtedly some who may wish to continue, the next paper, commencing the second volume, will be generally sent to them. It is hoped that they will mostly continue their patronage, and contribute the small amount required, and thus keep one paper of the kind in existence. Below will be found the terms for the ensuing volume, by which it will be seen that members of associations and companies may save enough to pay a part or the whole of their postage, by clubbing together and having the bundle sent to one of the company, at a reduced price. If there should be any who do not feel willing to do so much, or rather so little, for the common cause, they will please to return the paper through the post office, otherwise it will be taken for granted that they wish it continued.

Terms for vol. 2.—To clubs of 20 or more, having the paper sent in one package, $1 each per annum, in advance.
To clubs of not less than 5, sent as above, $1.25 each, in advance.
Single subscribers $1.50, in advance.
Members of the state and county or town associations, subscribing through the secretary, are entitled to the paper at $1 per annum, in advance.
Subscribers who do not pay in advance, $2 per annum.

BINDING.—Subscribers wanting their volumes bound, can have them done in any style and at reasonable prices, by leaving them at this office.

☞ The list of American patents will be continued in the next volume, and a selection of the most important English ones will also be given, as we find opportunity.

To CORRESPONDENTS.—The communication of F. R., though very excellent in its way, is not exactly suited to our columns. The same also may be said of several other essays which have been on file some time, and which we have endeavored to find room for. Cannot some of these writers give us facts in relation to their trades, not generally known? They may be more generally useful in that way.

We are under obligations to the "Mechanic" from Troy, on whose letter we had the privilege of paying postage, for the extraordinary intelligence that he does not consider advertisements of general interest to readers! We shall deliberate on that same with great earnestness, and see what is to be done.

THE MECHANIC ARTS.

It was contemplated at the outset of this paper to give a practical description of the trades and professions, illustrating the application of the sciences to the mechanical arts. For the necessary information we trusted that the leading mechanics would furnish facts on their respective trades, from which we should be able, with other assistance, to gather materials for such a series of articles. But it was found that a great number were not only ignorant on the subject, but indifferent, and that those who were most disposed to lend a helping hand, were too much occupied with their own immediate affairs, and too frequently, from want of literary habits and practice, incapable of rendering that aid which was expected by the communication of their ideas in writing. In short the assistance, literary and pecuniary, to carry out the objects and designs of the work, have been incompetent to that end—only partial and incomplete essays on some branches of manufacture, have been given. In the next volume, however, it will be attempted to give a complete account of the mechanical arts, illustrated with engravings, embracing every trade, and including a description of the tools used, the facts which led to their invention, and the principles on which these useful instruments depend. Were the patronage sufficient, we should be enabled to extend the articles to a greater length by giving supplements monthly. As it is we shall go as far as the patronage will warrant; and while it is designed to make the series useful and practical to each particular trade, it will also be sought to make them interesting to all. The materials are prepared, and we shall commence the course in the first number of the next volume.

WASTE OF FUEL.

Residents from the country, where fuel is plenty, and who are accustomed to enjoy the cheerfulness of an open fire, adopt with reluctance the close stoves which they are compelled to use on changing their habitation to the town. They complain that they cannot feel the heat because they do not *see* it. The large open fire places of the country, although greatly reduced in size from those *under* which our ancestors sat in the winter evenings, and which were so constructed that the whole family were gathered on the hearth, under the throat of the chimney, the projecting mantle piece embracing them within its compass—are still maintained at an alarming waste of fuel. Dr. Arnott estimates that of the whole heat produced from the fuel thus used, about seven-eighths ascend the chimney, and is absolutely wasted. The loss of heat is, in the first place, more than half in the smoke, as it issues from the burning mass; secondly, that carried off by the current of the warmed air of the room, which is constantly entering the chimney, between the fire and the mantel piece, and mixing with the smoke; this is estimated at nearly two-eighths: thirdly, it is a fact that the black or visible part of the smoke of a common fire is really a valuable part of the fuel, escaping unburned. If, then, more than half of the heat produced be in the smoke, and if about an eighth of the combustible pass away unburned, there is a loss of at least seven-eighths of the whole. Count Rumford estimated the loss at fourteen fifteenths. We are aware that in the multitude of contrivances for burning fuel economically, *some* have been constructed with a view to the consumption of the smoke, but do not know of any now in use. The want of some such machinery gave rise to a trade, that involved a great deal of suffering; that of the chimney-sweeper. If soot, says a writer in the *Penny Magazine*, were a necessary product of combustion—if fuel, when burned, could not give off heat without yielding soot also, then we might legitimately confine attention to the best mode of removing the soot thus formed. But such is a serious and most expensive error. Soot is not a result of combustion; it is fuel, useful carbon, actually wasted by being driven off into the atmosphere, without being made to yield its heating effects. If instead of being allowed to pass up the flue, it were made to pass over or through burning fuel, whereby it should be itself burned, only the gases and a very small portion of useful carbon would be lost. It is not impossible that such an improvement may be introduced into dwellings. We do not feel the evils of a want of such a contrivance so much here as in those cities where the authorities require that every chimney shall be swept at short stated periods, as is or has been the law in some of our American cities. Here the notes of the sweep are seldom heard. His condition in England has attracted the attention of philanthropists for more than half a century. There the introduction of machinery for cleaning chimneys has reduced his labor; a *prevention* of the evil which requires his services should have been long since found.

HOME MADE VOLCANOES.

Some wag has recently made a satisfactory experiment in the manufacture of domestic thunder; a very odd article to experiment on by the way, but quite as rational, perhaps, as many others upon which men are exercising their propensities to invent in this *age of patents*. Any one having a taste for exhibitions of this sort, would do better to turn his attention to volcanoes. He might exercise his genius by getting up an eruption on his own grounds, and enjoy the spectacle from his chamber window! Or a magnificent volcano might be got up by subscription, as they do balloon ascents, and the whole public be gratified with a stupendous model of Vesuvius. Some very eminent philosophers have had a hand in this kind of fun, and produced actual volcanoes. They were, however, of too grave and scientific a nature to answer the purpose we have in view, which is nothing short of a grand *upheaval* of the Helderberg at least! The science has not yet been carried to so great an extent as that; all that has been done, was attempted with a view to test the theories of philosophers, who differ on the subject of the origin and cause of volcanic fire. Not to mention lord Monboddo's theory of the earth's animality, wherein the volcanoes were enormous boils and ulcers, the French *savans*, among whom were Rouelle and Demarets, attributed the phenomena entirely to the inflammation of bitumen, pit coal, fossil wood, and turf, or peat; but an explanation more generally received was proposed by Lemery, who ascribed them to the spontaneous combustion of pyrites. To test his hypothesis, he made a striking experiment, the success of which rendered his theory highly probable, and has been repeated elsewhere with the same success. He formed a mixture of fifty pounds of iron filings and sulphur, which, after moistening it, he buried in the ground at a certain depth. The mixture became gradually heated, and at last took fire with a great explosion! Most naturalists, says Malte-Brun, combine these two opinions, considering pyrites as the foundation and cause of volcanic fire, while the vast masses of bituminous and carbonaceous schists which are often met with stratified in the same rocks, serve as fuel to the subterranean fire, which becomes extinguished when it can find no more nourishment. Now the man who applied to congress a few years ago for a grant of ten acres of land in the District of Columbia, to enable him to erect a gigantic model of the earth, if he has not got any thing more stupendous than that on hand, will do well to apply this hint to practice.

ESPY'S CONICAL VENTILATOR.—A model of this instrument may be seen at the bookstore of Mr. Little, and at the store of Mr. James S. Gould in South Market street. Its construction is exceedingly simple, and demonstrates the practical utility of the invention. Prof. Espy has caused

ventilators to be placed upon the tops of the chimnies of the public buildings in Washington, and they have proved perfect safeguards against smoke, in every instance, whenever applied to chimnies from tea rooms, that before have smoked almost incessantly, when the wind was high, they have accomplished thorough cures.

An experiment with the model will satisfy any, who prefer relying upon trial to the certified statements of others, that the invention is all it claims to be, "a perfect cure for smoking chimnies." Any who care to enjoy the benefit of this invention, we refer to Mr. Little or to Mr. Gould.

This invention has previously been alluded to on pages 174 part 1, and 27 part 2.

OLDEN NEWS PAPER.—We have lately been presented with a copy of the *Boston Gazette and Country Journal*, "containg the freshest advices, foreign and domestic," numbered 904, and dated August, 3, 1772. We learn from Thomas, that this paper was distingushed for the spirited political essays which appeared in it previous to the revolution. When the dispute between Great Britain and her colonies assumed a serious aspect, this paper arrested the public attention, from the part its able writers took in the cause of liberty and their country; and it gained a very extensive circulation. Soon after the war began, the British closed the avenues between Boston and the country, but one of the publishers made his escape by night, in a boat, with a press and a few types, and opened his office in Watertown, where he continued the Gazette and printed for the provincial congress of Massachusetts. The number before us, which was printed more than seventy years ago, is quite a curious specimen of the typographic art in this country at that period. It contains some well written strictures on the conduct of Gov. Hutchinson, and predicts "that probably some time hereafter, how soon God only knows, an alarming scene may open; when an oppressed and insulted people, seeing the instruments of the oppression riot in the abundant participation of public treasures, will be excited to the utmost desperation and revenge, the fatal consequences whereof cannot be foreseen." Among the advertisements is one, more common at that day than since, of "a negro woman that is a very good cook, and a negro girl strong and hearty, 14 years of age."

QUERY FOR CARPENTERS.—Can any of your readers furnish a table of the proper proportions for scantlings of timber for small buildings. For instance, in bearing posts of oak, if the height be ten feet, what should be the size of the scantling in square inches? The same for pine. Also the proportions for girders, joists, bridgings, rafters, beams &c., both of oak and pine?

TEST OF VACCINATION.—There is still much scepticism in community on the efficacy of vaccination. It arises in part from the frequency of persons having been vaccinated being attacked with small pox or varioloid. It is believed that this never occurs when the virus has take effect thoroughly. It should therefore be insisted in families that the physician use the test introduced by Dr. Bryce of Edinburgh several years since, of vaccinating on the other arm from the one first vaccinated. If the first had been perfect, both pustules will ripen precisely at the same time; if this does not take place the constitution has not been properly effected, and vaccination must be repeated. This simple and easy security ought never to be neglected.

QUERY.—We perceive that the *Long Island Star* has agencies at Jerusalem, Jericho, Mount Sinai and Babylon. Can any of its correspondents from those regions tell what has become of the scarlet woman that used to 'bide in the latter *toon*?

SYNOPSIS OF NEWS, ETC.

While Miller is preaching in Madison street, the destruction of the world in 1843, Dr. Smith, the geologist, is lecturing in Broadway, and proving that it has existed for millions of years, and will not, in all probability, be destroyed for millions to come.

The election of the state of New York has resulted in the elevation of Mr. Bouck to the gubernatorial chair by a majority of about 20,000. The assembly will stand 93 democrats, 35 whigs; in the senate 22 democrats, 10 whigs.

The lake steam boat Vermillion took fire on Sunday morning while on her passage down, and burnt to the water's edge. She had a large quantity of freight on board, principally flour, and a great number of passengers, most of whom were saved almost by a miracle, as they were asleep in their berths, and the fire spread with inconceivable rapidity. All the baggage of the passengers was consumed.

The factories at Ipswich, Mass., have stopped.

The steamboat Lawrence from Kanawha, struck a log, a few days since, between the mouth of the Big Sandy and Burlington, on the Ohio, and sunk.

There is not money enough in Ohio to pay the taxes. They amount to $1,800,000 and the circulation within the state of notes of banks in and out of the state and the amount of spiece held by the banks is only $1,700,000.

Follansbee & Wingate's cabinet manufactory in Beacon street, Boston, was destroyed by fire on Saturday evening, together with a large amount of upholstery and furniture. The workmen also lost most of their tools.

The Princeton, N. J., paper says that the farmers near there are employing men at twenty-five cents per day and their provisions.

The cultivation of rice is attracting attention in Louisiana. The very successful experiments made by W. Y. Lewis, Esq., of New Orleans, leaves no room to doubt that the rice culture can be advantageously prosecuted in various sections of this state.

An iron steamer will leave Coenties slip for Oswego this morning at 10 o'clock. She is drawn by an Ericson screw fixed in the bow and partly out of water. The experiments made with her so far have been quite satisfactory.—*Jour. of Com.*

Dr. Johnson says, "let no man anticipate uncertain profits." This is good advice, and had it been followed by the people generally, from 1834 to 1840, we should not have heard so much about hard times.—*Hart. Times.*

The unhappy saccharine product of the tropics has no longer to contend with beets and sugar-maple only. A French officer of high rank in Algeria has discovered that the rinds of figs yield sugar in abundance; and a Mr. Vaughan, in Tennessee, has recently produced excellent mollasses from the stalks of Indian corn—said to be far preferable to that made from cane.

SPANISH CIGAR MAKERS.

The government tobacco manufactory, in Seville, cost one million and a half sterling, and is devoted wholly to tobacco and cigars; it is one of the most curious exhibitions imaginable. In the interior of the edifice, the tobacco, as it arrives from the Havana and South America, is pounded by mills and machinery, the former worked entirely by mules. After seeing this very curious process, you are ushered up stairs into a quadrangular arched space of immense extent, where you behold no less than two thousand five hundred girls, all making cigars from the bruised leaves of the tobacco plant. They sit at square tables, in squads, as it were, and over each hundred there is a female inspector. They assemble from the city and country, for this work at ten in the morning, and are allowed to bring dinner; they dine at one o'clock, and are dismissed home at five. Among so many girls, to say, nearly all were ugly; but, for the most part, though gay-looking, happy and healthy they were excessively diminutive and plain. It is singular to conceive that this filthy and poisonous habit of smoking, producing, I believe, no possible good to mankind, but, on the contrary, heaviness, stench and stupidity, should employ and give a livelihood to near 3,000 of the female sex, who are occupied in the sole process of rolling the tobacco leaf up into the shape of that odious implement of filth, a cigar.

BRICK MADING BY STEAM.—A steam brick press is now in operation at the yard of Mr. Kirk, corner of Schuylkill 3d and Walnut streets, Philadelphia. It makes bricks out of dry clay. The clay is finely pulverized between two rapidly revolving rollers, and is then pressed in strong moulds of the size of a brick by pistons worked by a toggle joint. The machine has six moulds, and in good working order, will make thirty bricks a minute. Similar machines, the invention of N. Sawyer of Baltimore, have been a long time in operation in that city and in other parts of the country. The bricks made by them have undergone the severerest tests, and have been found of excellent quality. The treasury buildings at Washington are built of brick of this kind.

CASTER BEANS.—The Alton, Illinois, Telegraph of the 15th ult. says:—We have been surprised at the low price the above article has brought this season, varying from thirty seven and a half, to forty cents a bushel; and more especially as the crop has been to some extent cut off. Las season Caster Beans commanded from a dollar to a dollar and a half a bushel; and the vast depreciation in the price this fall, when taken in connextion with the injury done to the crop, has most sadly disappointed many of our farmers, who had relied upon it as a sure source of revenue to meet their pressing liabilities.

A GOOD MOVEMENT.—The steamboat engineers of Cincinnati, have formed an association, the object of which is declared to be, "to regulate and promote the interest, character, and respectability of that class of men known as steamboat engineers." We learn from the Cincinnati Gazette, that the association contemplates making an effort by appeals to the public, and memorals to congress, to do what it can to remedy two evils which are known to give rise to most of the accidents that occur on the western rivers. These, it is stated, are defective boilers, and ignorant or careless Engineers. In England and Erance these evils are avoided, to a great degree, by putting boilers to the test, and by seeing that those who manage them, have the requiste skill. We have inspectors of boilers; but we learn that they are not so made, and cannot be so made as to determine their real condition, while, as regards engineers themselves, there is nothing to determine who are or who are not qualified. The movement is a good one, and will, we have no doubt, result in the enactment of laws which will make steam navigation more safe as well as speedy.—*Baltimore American.*

BOOK BINDING.—HARVEY H. CORNING, sign of the golden ledger, 62 State street, Albany, carries on the above business in all its various branches, viz: PLAIN, EXTRA and SUPER EXTRA—has a first rate RULING MACHINE and other necessary implements for manufacturing BLANK BOOKS of every description, on the most reasonable terms, of the best materials and workmanship.
N. B. An assortment kept on hand. 27.

PRINTING.—Every kind of letter press printing will be done to order on short notice at the office of the Mechanic, in the best manner and at reasonable prices. Business, visiting and wedding cards executed in a superior style on an hour's notice New and fashionable type for books and pamphlets; hand bills of every size and style; circulars, bill heads, &c. &c.

NEW YORK STATE MECHANIC,
A weekly paper, devoted to the interests of Mechanics and Manufacturers,
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